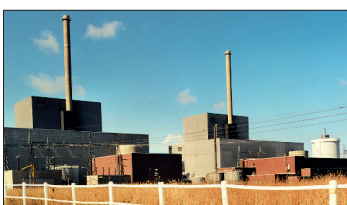


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ARTICLES

The Universal Legal Framework Against Nuclear Terrorism

by Walter Gehr*

Abstract

After the events of September 11, the United Nations Security Council adopted Resolution 1373 (2001) which has been called the “Counter-Terrorism Code” of the world, because it creates legal obligations for all 192 Member States of the United Nations.

UN Security Council Resolutions 1373 (2001), 1540 (2004) and 1735 (2006) as well as a defined set of 13 global treaties constitute the universal legal framework against terrorism which must be implemented in a manner consistent with international human rights obligations. Basically, these 13 treaties as well as Resolution 1373 are international criminal law instruments.

Within this universal legal framework, the framework against nuclear terrorism is constituted by Resolution 1540, the Convention on the Physical Protection of Nuclear Material (CPPNM) which entered into force in 1987, and the International Convention for the Suppression of Terrorist Bombings which is in force since 2001.

These three legal instruments will be supplemented by the International Convention for the Suppression of Acts of Nuclear Terrorism, an amendment to the CPPNM and two Protocols amending the Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation and the Protocol for the Suppression of Unlawful Acts Against the Safety of Fixed Platforms Located on the Continental Shelf, once these instruments, all of which were adopted in 2005, enter into force.

The Terrorism Prevention Branch (TPB) of the United Nations Office on Drugs and Crime (UNODC) assists countries which are in need of legislative assistance for the drafting of appropriate

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counter-terrorism laws that duly take into account the obligations contained in Resolution 1373, the United Nations sanctions against Al-Qaida and the Taliban as well as in the 13 universal conventions for the prevention and the suppression of terrorism, including the CPPNM and the new International Convention for the Suppression of Acts of Nuclear Terrorism. UNODC/TPB has also been mandated by the UN General Assembly to assist States in strengthening international cooperation mechanisms in criminal matters related to terrorism, including through national capacity-building.

The Counter-Terrorism Committee

On 28 September 2001, the United Nations Security Council (UNSC) adopted Resolution 1373. This Resolution is based on Chapter VII of the Charter of the United Nations (UN). Hence, decisions reflected in Resolution 1373 are legally binding upon UN Member States.

Together with the 13 “UN conventions and protocols” against terrorism¹, the Security Council resolutions concerning Al-Qaeda and the Taliban and Security Council Resolution 1540 on Weapons of Mass Destruction, Resolution 1373 is one of the four pillars of the global legal framework for the prevention and suppression of terrorism.

Through Resolution 1373,² the UNSC has established the Counter-Terrorism Committee – CTC³ to monitor implementation of Resolution 1373 on the basis of reports sent by States to the CTC,⁴ with the assistance of experts.⁵ The CTC consists of the 15 Member States of the

-
1. Convention on Offences and Certain Other Acts Committed on Board Aircraft, 1963; Convention for the Suppression of Unlawful Seizure of Aircraft, 1970; Convention for the Suppression of Unlawful Acts Against the Safety of Civil Aviation, 1971; Protocol for the Suppression of Unlawful Acts of Violence at Airports Serving International Civil Aviation, supplementary to the Convention for the Suppression of Unlawful Acts Against the Safety of Civil Aviation, 1988; Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation, 1988; Protocol for the Suppression of Unlawful Acts Against the Safety of Fixed Platforms Located on the Continental Shelf, 1988; Convention on the Prevention and Punishment of Crimes against Internationally Protected Persons, including Diplomatic Agents, 1973; International Convention Against the Taking of Hostages, 1979; Convention on the Physical Protection of Nuclear Material, 1980; Convention on the Marking of Plastic Explosives for the Purpose of Detection, 1991; International Convention for the Suppression of Terrorist Bombings, 1997; International Convention for the Suppression of the Financing of Terrorism, 1999; International Convention for the Suppression of Acts of Nuclear Terrorism, 2005 (not yet in force). In 2005, the following three legal instruments were adopted to supplement the existing framework: Amendment to the Convention on the Physical Protection of Nuclear Material, Protocol to the Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation and Protocol to the Protocol for the Suppression of Unlawful Acts Against the Safety of Fixed Platforms Located on the Continental Shelf; none of the instruments adopted in 2005 has yet entered into force.
 2. Security Council Resolution 1373 (2001), operative paragraph 6.
 3. The CTC maintains a website at: www.un.org/sc/ctc.
 4. By 30 June 2005, the CTC had received 601 reports from Member States and others. Nevertheless, by 15 August 2006, around 88 States were late in submitting their reports.
 5. In the period from January to October 2002, the experts were nationals of the following countries: Australia, Austria, Bahamas, France, India, Jamaica, the Netherlands, Peru, Spain and Tunisia. On 17 November 2003, they were from the Bahamas, Brazil, Canada, Chile, Egypt, France, Jamaica, the Russian Federation and South Africa.

UNSC. It is currently chaired by Ambassador Ricardo Alberto Arias (Panama).⁶ Its Vice-Chairmen are Ambassador Jorge Voto-Bernales (Peru), Ambassador Dumisani Shadrack Kumalo (South Africa) and Ambassador Nassir Abdelaziz Al-Nasser (Qatar).

Since its inception, the Committee has engaged in an ongoing dialogue with Member States and has worked to promote closer cooperation and coordination within the United Nations system and among international, regional and sub-regional bodies.

The CTC has now been analysing the reports submitted by Member States for five years. It has been, above, all the insight that this analysis must go hand in hand with an improved implementation of the CTC's recommendations that prompted the Security Council on 26 March 2004 to adopt Resolution 1535 by which the CTC was given a more institutionalised character through the creation of a Counter-Terrorism Committee Executive Directorate (CTED). On 18 May 2004, the United Nations Secretary-General appointed Ambassador Javier Ruperez (Spain) as Executive Director of the CTED.

Since then, the CTC expanded its activities to include visits to Member States. In the meantime, the CTED visited several countries such as Albania, Algeria, India and Pakistan.

A representative of the Terrorism Prevention Branch (TPB) of the United Nations Office on Drugs and Crime (UNODC) participated in almost all visits of the CTC/CTED as a member of its delegation.

In its recent global counter-terrorism strategy, the United Nations General Assembly encouraged the CTC/CTED "... to continue to improve the coherence and efficiency of technical assistance delivery in the field of counter-terrorism, in particular by strengthening its dialogue with States and relevant international, regional and subregional organisations and working closely, including by sharing information, with all bilateral and multilateral technical assistance providers."⁷

The Substantive Provisions

1) United Nations Security Council Resolution 1373 (2001)

Operative paragraphs (OP) 1, 2 and 3 contain the substantive provisions of Resolution 1373⁸ and, in particular, the legal obligations States are requested to implement. In a nutshell, they deal, although not exclusively, with the following issues:

- OP 1: prevention and suppression of the financing of terrorism;
- OP 2: prevention and criminalisation of acts of terrorism;
- OP 3: international cooperation as well as ratification and implementation of the 13 "UN-conventions" against terrorism.⁹

6. Ambassador Arias is the sixth Chairman of the CTC after Ambassador J. Greenstock (UK), Ambassador I.F. Arias (Spain), Ambassador A.V. Konuzin (Russian Federation), Ambassador A.I. Denisov (Russian Federation) and Ambassador Margrete Løj (Denmark).

7. United Nations General Assembly Resolution 60/288 of 8 September 2006.

8. Only operative paragraphs 1 and 2 are legally binding, since only these two paragraphs reflect a decision of the Security Council taken in accordance with Article 25 of the United Nations Charter.

9. At the time of the adoption of Security Council Resolution 1373 on 28 September 2001, the 13th Counter-Terrorism Convention, the International Convention for the Suppression of Acts of Nuclear Terrorism, had not yet been adopted.

Effective implementation of the resolution requires States to criminalise the use of their respective territory for the purpose of financing, planning, facilitating or committing terrorist acts against other States or their citizens. Hence, it requires States to take the following measures:

- the criminalisation of the financing of terrorism in accordance with Articles 2 and 4 of the International Convention for the Suppression of the Financing of Terrorism (paragraph 1); and
- ensuring that claims of political motivation are not recognised as grounds for refusing requests for the extradition of alleged terrorists.¹⁰

Resolution 1373 does not contain a definition of the term “terrorism”; however, operative paragraph 3 of Security Council Resolution 1566 of 8 October 2004 contains what some call a description of terrorist acts¹¹. Security Council Resolution 1624 of 14 September 2005 gave to the CTC the additional task to monitor how States prohibit the incitement to commit acts of terrorism.¹²

In operative paragraph 4 of Resolution 1373, the Security Council noted “with concern the close connection between international terrorism and ... illegal arms trafficking, and illegal movement of nuclear, chemical, biological and other potentially deadly materials” and emphasised in this regard “the need to enhance coordination of efforts on national, sub-regional, regional and international levels in order to strengthen a global response to this serious challenge and threat to international security”.

2) *The Sanctions Adopted Against Al-Qaida and the Taliban*

The Security Council Committee established pursuant to paragraph 6 of Resolution 1267 (1999) (hereafter referred to as the “1267 Committee”) oversees the implementation by States of the sanctions imposed by the Security Council on individuals and entities belonging or related to the Taliban, Usama Bin Laden and the Al-Qaida organisation and maintains a list of individuals and entities for this purpose.¹³

10. Operative paragraph 3(g).

11. Resolution 1566, OP 3: “criminal acts, including against civilians, committed with the intent to cause death or serious bodily injury, or taking of hostages, with the purpose to provoke a state of terror in the general public or in a group of persons or particular persons, intimidate a population or compel a government or an international organization to do or to abstain from doing any act, which constitute offences within the scope of and as defined in the international conventions and protocols related to terrorism”.

12. The requirement to prohibit the incitement to terrorism is contained in Security Council Resolution 1624 (2005) which was not adopted under Chapter VII of the United Nations Charter. Hence this requirement does not constitute a legally binding international obligation. It is interesting to note in this context that Article 20(2) of the International Covenant on Civil and Political Rights (ICCPR) obliges States to prohibit by law “Any advocacy of national, racial or religious hatred that constitutes incitement to discrimination, hostility or violence”. Security Council Resolution 1624 (2005) does not contain a reference to this article, but to Article 19 ICCPR on the right to freedom of expression (Preambular paragraph 6).

13. The list is available on the 1267 Committee’s website together with the implementation reports of States at: www.un.org/Docs/sc/committees/1267Template.htm.

In Resolutions 1267 (1999), 1333 (2000), 1390 (2002), 1455 (2003), 1526 (2004), 1617 (2005) and 1735 (2006),¹⁴ the Security Council obliged all States to freeze the assets, prevent the entry into or the transit through their territories, and prevent the direct or indirect supply, sale and transfer of arms and military equipment with regard to the individuals/entities included on the list.

Resolution 1617 (2005) of 29 July 2005 emphasised that the obligation placed upon all Member States to implement, in full, Resolution 1373 (2001), is also applicable with regard to the Taliban or Al-Qaida, and any persons or entities associated therewith who have participated in financing, planning, facilitating, recruiting for, preparing, perpetrating, or otherwise supporting terrorist activities.

3) *The Universal Conventions Against Terrorism*

Security Council Resolution 1373 (2001) brought the universal conventions and protocols (hereafter referred to as the “conventions”) for the suppression and prevention of terrorism back to the attention of the international community. Together with the technical assistance which was given to countries, the resolution accelerated the ratification process of the 12 conventions, which had been adopted before Resolution 1373. Today these conventions have been ratified by more than 100 countries and 89 States have ratified all 12 conventions. Fourteen States have already ratified the new 13th Convention, the International Convention for the Suppression of Acts of Nuclear Terrorism.¹⁵

The counter-terrorism conventions and protocols are international treaties and are therefore governed by the provisions of international treaty law as enshrined in the 1980 Vienna Convention on the Law of Treaties. Although the rule of “pacta sunt servanda” belongs to the most fundamental norms of international treaty law,¹⁶ it is interesting to note that the United Nations Security Council felt the need to recall this international obligation by calling upon States, in its Resolution 1373 (2001),¹⁷ to “... fully implement the relevant international conventions and protocols relating to terrorism ...”.

With two exceptions,¹⁸ all conventions oblige States Parties to establish as criminal offences the offences set forth therein. In the case of the International Convention for the Suppression of the Financing of Terrorism, for instance, this means that States have to establish the financing of terrorism

14. See also Security Council Resolution 1699 of 8 August 2006 which addresses, in this context, the role of Interpol.

15. Status at 23 February 2007; these States are: Austria, the Czech Republic, El Salvador, India, Kenya, Latvia, Lebanon, Mexico, Mongolia, Romania, Russian Federation, Serbia, Spain and Slovakia.

16. See Article 26 of the Vienna Convention on the Law of Treaties which is entitled “*Pacta sunt servanda*” and which reads as follows: “Every treaty in force is binding upon the Parties to it and must be performed by them in good faith.”

17. Operative paragraph 3(e); the Security Council had already launched a similar appeal in its Resolution 1269 of 19 October 1999, operative paragraph 2.

18. The exceptions being the Convention on the Marking of Plastic Explosives for the Purpose of Detection, 1991, and the Convention on Offences and Certain Other Acts Committed on Board Aircraft, 1963.

as an autonomous offence, i.e. not as an auxiliary crime,¹⁹ and independently of whether the funds were actually used to carry out a violent act.²⁰

The rule “*pacta sunt servanda*” applied to the conventions also means that States have to establish their respective jurisdiction over the offences in cases where the alleged offender is present in their respective territories and they do not extradite that person. States are therefore requested to establish a kind of universal jurisdiction in the form of the so called “*forum deprehensionis*”.

The international criminal principle to “extradite or prosecute”²¹ is not only enshrined in the conventions, but has been reconfirmed in operative paragraphs 2(c), (d) and (f) of Security Council Resolution 1373 and explicitly stated in Security Council Resolutions 1456 (2003)²² and 1624 (2005).²³

As stated above,²⁴ under Security Council Resolution 1373 (2001), States are required to ensure that claims of political motivation are not recognised as grounds for refusing requests for the extradition of alleged terrorists. This obligation is expressly reiterated, *inter alia*, in the International Convention for the Suppression of Terrorist Bombings, 1997,²⁵ the International Convention for the Suppression of Acts of Nuclear Terrorism, 2005²⁶ and in the 2005 Amendment to the Convention on the Physical Protection of Nuclear Material (CPPNM).²⁷

4) The Legal Framework Against Nuclear Terrorism

a) United Nations Security Council Resolution 1540 (2004)

The proliferation of nuclear, chemical and biological weapons, as well as their means of delivery, constitutes a threat to international peace and security. This threat could become particularly acute if these weapons fall into the hands of individuals and entities not acting under the authority of any State, and in particular into the hands of terrorist organisations.

In view of this double threat, the United Nations Security Council adopted on 28 April 2004 Security Council Resolution 1540 which is therefore both a counter-terrorism and a non-proliferation resolution. Like in the case of Resolution 1373, the Security Council, through Resolution 1540, established a Committee which has been tasked with the monitoring of the resolution’s

19. See in this regard, the briefing for Member States held in New York on 4 April 2002 at: www.un.org/docs/sc/committees/1373/rc.htm.

20. Article 2(3) of the Financing Convention.

21. “*aut dedere aut judicare*”.

22. Operative paragraph 3.

23. Preambular paragraph 15.

24. See Title “The Substantive Provisions”, point 1).

25. Article 11.

26. Article 15.

27. Once this amendment will come into force, the provision will appear as Article 11A CPPNM.

implementation.²⁸ The “1540 Committee” maintains a legislative database which is accessible via the committee’s website.²⁹

One of the main legally binding obligations for States introduced by this resolution is to adopt and enforce appropriate effective laws which prohibit any non-State actor to manufacture, acquire, possess, develop, transport, transfer or use nuclear, chemical or biological weapons and their means of delivery. Consequently, States are also required to “... renew and fulfil their commitment to multilateral cooperation, in particular within the framework of the International Atomic Energy Agency, the Organisation for the Prohibition of Chemical Weapons and the Biological and Toxin Weapons Convention ...”³⁰

b) *Treaty Provisions*

To date, the area of nuclear terrorism has been expressly³¹ addressed by a number of universal legal instruments in addition to Security Council Resolution 1540 (2004), i.e.:

- the International Convention for the Suppression of Terrorist Bombings, 1997;³²
- the Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation, 1988, through its 2005 Protocol;³³
- the Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms Located on the Continental Shelf, 1988, through its 2005 Protocol;³⁴
- the Convention on the Physical Protection of Nuclear Material, 1980, including through its 2005 Amendment; and
- the International Convention for the Suppression of Acts of Nuclear Terrorism, 2005.³⁵

Already the International Convention for the Suppression of Terrorist Bombings, (the “Terrorist Bombings Convention”) adopted in 1997 by the United Nations General Assembly, established offences which can be perpetrated through the “dissemination or impact of toxic chemicals, biological agents or toxins or similar substances or radiation or radioactive material”.

It was the same UN General Assembly which adopted on 14 September 2005 the International Convention for the Suppression of Acts of Nuclear Terrorism (the “Nuclear Terrorism Convention”),³⁶

28. Resolution 1673 (2006) extended the mandate of the “1540 Committee” until 27 April 2008.

29. See: <http://disarmament2.un.org/Committee1540/index.html>.

30. Security Council Resolution 1540 (2004), operative paragraph 8(c).

31. Operative paragraph 2(a) of Security Council Resolution 1373 (2001) addresses this problem implicitly.

32. See Article 1(3)(b).

33. Not yet in force.

34. Not yet in force.

35. Not yet in force. See also: O. Jankowitsch-Prevor “The International Convention on the Suppression of Acts of Nuclear Terrorism” in OECD/NEA *Nuclear Law Bulletin* No. 76, Volume 2005/2.

36. The Nuclear Terrorism Convention does not address, nor can it be interpreted as addressing, in any way, the issue of the legality of the use or threat of use of nuclear weapons by States.

in spite of warnings by the International Atomic Energy Agency (IAEA)³⁷ that this Convention would overlap with the Convention on the Physical Protection of Nuclear Material (CPPNM).³⁸ There is evidence in the preamble of the Nuclear Terrorism Convention that the State representatives which adopted it in New York were aware of the CPPNM of 1980.³⁹

However, there is no indication that they had taken into account the fact that two months earlier, on 8 July 2005, their colleagues had adopted in Vienna on 8 July 2005 an amendment to the Convention on the Physical Protection of Nuclear Material (the “amendment”). The scope of the CPPNM was limited to “nuclear material used for peaceful purposes while in international nuclear transport”. The amendment broadens the scope of application so as to include nuclear material used for peaceful purposes also while in domestic use, storage and transport. From the point of view of international criminal law, it is interesting to note that the amendment clarifies that the purpose of the CPPNM is to prevent and combat offences relating to nuclear materials and facilities worldwide as well as to facilitate cooperation among State Parties to those ends.⁴⁰

The State representatives which adopted under the auspices of the International Maritime Organisation (IMO) in London on 14 October 2005 both:

- the Protocol of 2005 to the Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation (the “Maritime Navigation 2005 Protocol”); and
- the Protocol of 2005 to the Protocol for the Suppression of Unlawful Acts Against the Safety of Fixed Platforms Located on the Continental Shelf (the “Fixed Platform 2005 Protocol”);

were fully aware of the existing legally binding framework against terrorism: the Maritime Navigation 2005 Protocol is the only legal instrument against terrorism which makes reference to United Nations Security Council Resolutions 1373 (2001) and 1540 (2004) as well as to all 12 universal conventions and protocols against terrorism which have already entered into force. In addition, it refers to the Nuclear Terrorism Convention.

Like the Terrorist Bombings Convention, the two 2005 Protocols establish offences which can be committed not only with radioactive material, but also through chemical and biological weapons. As far as nuclear terrorism is concerned, they establish offences which can be committed through “nuclear weapons or other nuclear explosive devices”.⁴¹

37. United Nations General Assembly Document A/AC.252/1998/L.5 of 27 February 1998.

38. Currently, the possession of nuclear material needs to be criminalised in accordance with Article 7(a) CPPNM. The same obligation will exist in accordance with Article 2(1)(a) Nuclear Terrorism Convention which aims at criminalising the possession of radioactive material, since nuclear material constitutes a sub-group of radioactive material in accordance with Article 1(1) of the Nuclear Terrorism Convention.

39. However, the negotiators of the Nuclear Terrorism Convention were mainly guided by the provisions of the Terrorist Bombings Convention.

40. Article 1A. The other main purpose being “to achieve and maintain worldwide effective physical protection of nuclear material used for peaceful purposes and of nuclear facilities used for peaceful purposes”. The same article clarifies that nothing in the CPPNM shall be construed as a lawful authorisation to use or threaten to use force against nuclear material or nuclear facilities used for peaceful purposes.

41. Hence the two 2005 Protocols deal with biological, chemical and nuclear weapons (BCN weapons). The term “BCN weapon” is defined by Article 1(1)(d) of the Maritime Navigation 2005 Protocol. Biological

Like the International Convention for the Suppression of the Financing of Terrorism (the “Financing Convention”), the two 2005 Protocols, once in force, will oblige States Parties to establish criminal, civil or administrative liability of legal entities which commit one or more offences set forth by these legal instruments. These legal entities need to be subject to effective, proportionate and dissuasive sanctions which may be of a monetary nature.⁴²

It remains to be seen whether the States which have not ratified the Treaty on the Non-Proliferation of Nuclear Weapons (NPT)⁴³ will become States Parties to the Maritime Navigation 2005 Protocol, since this instrument exempts explicitly from criminalisation the transport by ship of nuclear weapons or other nuclear explosive devices undertaken in compliance with the obligations set forth in the NPT.⁴⁴ States which have not ratified the NPT might argue that it would not be not acceptable for them to introduce the obligation to make the transport of nuclear weapons punishable unless in compliance with the NPT, since the NPT constitutes a legal regime which creates neither obligations nor rights for them as non States Parties.⁴⁵

The Financing Convention could also be considered as belonging to the universal legal framework against nuclear terrorism: in view of the very large interpretation given to the term “fund” in this convention,⁴⁶ the provision or collection of radiological material, including nuclear material, with the intention that it should be used or in the knowledge that it is to be used in order to carry out one or more offences related to terrorism, must also be criminalised by domestic legislation.

It is worthwhile noting that the legal instruments adopted in 2005 clarify that none of the treaties belonging to the universal legal framework against nuclear terrorism applies to the activities of armed forces during an armed conflict.⁴⁷

Human Rights

A Ministerial declaration adopted by the Security Council on 20 January 2003 in its Resolution 1456 (2003) specifically provides that “States must ensure that any measure taken to combat terrorism comply with all their obligations under international law, and should adopt such measures in

weapons are defined in accordance with Article I of the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction; chemical weapons are defined in accordance with Article II of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction. There is no definition of the term “nuclear weapons and other nuclear explosive devices” in the two 2005 Protocols.

42. Articles 5 and 2 of the Maritime Navigation 2005 Protocol and of the Fixed Platform 2005 Protocol, respectively.
43. India, Israel and Pakistan.
44. See Article 4(5) Maritime Navigation 2005 Protocol which will introduce an Article 3bis(2) to that effect.
45. See IMO Document LEG/SUA/WG.1/2/9 dated 12 July 2004.
46. See Article 1(1).
47. Such a clarification exists with regard to terrorism bombings in Article 19(2) of the International Convention for the Suppression of Terrorism Bombings, 1997. See also Article 4(2) of the Nuclear Terrorism Convention, Article 2 CPPNM as amended by the 2005 Amendment and Articles 3 and 2 of the Maritime Navigation 2005 Protocol and of the Fixed Platform 2005 Protocol, respectively.

accordance with international law, in particular international human rights, refugee, and humanitarian law”.⁴⁸

In the same vein – and copying thereby Article 14 of the Terrorist Bombings Convention – Article 12 of the Nuclear Terrorism Convention emphasises that alleged offenders shall be guaranteed “fair treatment, including enjoyment of all rights and guarantees in conformity with the law of the State in the territory of which that person is present and applicable provisions of international law, including international law of human rights.” Similar provisions have been introduced in the other above-mentioned legal instruments.⁴⁹

However, the 2005 Amendment to the CPPNM leaves the wording of Article 12 CPPNM unchanged; it reads “Any person regarding whom proceedings are being carried out in connection with any of the offences set forth in Article 7 [CPPNM] shall be guaranteed fair treatment at all stages of the proceedings”.

Since international treaties are not to be read in clinical isolation from other sources of public international law,⁵⁰ the simpler formulation of Article 12 CPPNM should not mean that the international human rights guarantees should be weaker for a person who allegedly committed an offence set forth by the CPPNM than for a person who allegedly committed an offence established by the Terrorist Bombings Convention.

Assistance

UNSC Resolution 1377 of 12 November 2001 has mandated the CTC to explore ways in which States can be assisted as well as the availability of existing technical, financial, legislative or other assistance programs which might facilitate the implementation of Resolution 1373. A CTC – Directory of assistance can be accessed online.⁵¹ A number of States and international organisations have offered to provide assistance. The new UN Counter-Terrorism Online Handbook⁵² also contains a list of international bodies ready to provide assistance.

Based in Vienna, UNODC commenced towards the end of 2002 a programme of legal assistance for the implementation of the 12 “UN Conventions and Protocols” against terrorism and Resolution 1373 (2001). UNODC’s assistance work is recommended by the CTC to States in need of legal advisory services in the area of counter-terrorism. Since the start of its legal advisory programme, UNODC’s Terrorism Prevention Branch – TPB has been able to deliver legal advisory services or training to approximately 100 States upon their request. It has reached out to more than 125 countries through sub-regional workshops.

48. See also the United Nations Global Counter-Terrorism Strategy, Plan of Action, paragraph 3.

49. See Article 9 Maritime Navigation 2005 Protocol and Article 2 Fixed Platform 2005 Protocol.

50. See: [www.worldtradelaw.net/reports/wtoab/us-gasoline\(ab\).pdf](http://www.worldtradelaw.net/reports/wtoab/us-gasoline(ab).pdf).

51. See: www.un.org/Docs/sc/committees/1373/ctc_da/index.html.

52. See: www.un.org/terrorism/cthandbook/index.html.

A UNODC publication entitled “Preventing Terrorist Acts: A Criminal Justice Strategy Integrating Rule of Law Standards in Implementation of United Nations Anti-Terrorism Instruments”, containing numerous references to the Nuclear Terrorism Convention is available online.⁵³

The United Nations Global Counter-Terrorism Strategy, adopted by the General Assembly on 8 September 2006,⁵⁴ encouraged UNODC “... including its Terrorism Prevention Branch, to enhance, in close consultation with the Counter-Terrorism Committee and its Executive Directorate, its provision of technical assistance to States, upon request, to facilitate the implementation of the international conventions and protocols related to the prevention and suppression of terrorism and relevant United Nations resolutions”.⁵⁵

In the context of this strategy and of United Nations Security Council Resolution 1373 (2001), the UN General Assembly recognised the role of UNODC’s Terrorism Prevention Branch in Vienna to assist “States in becoming Parties to and implementing the relevant international conventions and protocols relating to terrorism, including the most recent among them, and in strengthening international cooperation mechanisms in criminal matters related to terrorism, including through national capacity-building”.⁵⁶

UNODC’s Terrorism Prevention Branch intends to provide assistance on nuclear terrorism issues in cooperation with the International Atomic Energy Agency (IAEA).

53. It is directly available via www.unodc.org/images/Strategy%20Paper%20Mike%2006-52890_ebook.pdf. Other technical assistance tools are listed on www.unodc.org/unodc/terrorism_tools.html.

54. Resolution 60/288.

55. Plan of Action, paragraph III(7).

56. Operative paragraph 18 of United Nations General Assembly 61/40 dated 4 December 2006.

The Convention on Supplementary Compensation for Nuclear Damage: Catalyst for a Global Nuclear Liability Regime

by Ben McRae*

Introduction

Nuclear power can help address many of our world's most pressing concerns. It is a clean, reliable, economic source of energy that can be used to meet a significant portion of current demand for energy, as well as anticipated future increases in demand. Increased reliance on nuclear power to generate electricity will permit many millions of people throughout the world to experience an improved and sustainable quality of life. In addition, by decreasing dependence on fossil fuels, nuclear power can alleviate price volatility in energy markets and potential supply shortages and disruptions. Moreover, nuclear power produces large amounts of energy with no atmospheric emissions of pollutants such as NO_x or SO₂, and no emissions of greenhouse gases such as CO₂. To address global climate change effectively, nuclear power must play an increasingly important role in meeting our world's energy needs.

Over the past two decades, the international community has taken a number of actions to foster the use of nuclear power in a safe and secure manner.¹ One of the most important actions was adoption of the Convention on Supplementary Compensation for Nuclear Damage (CSC) to serve as the basis for a global nuclear liability regime. Such a regime is vital to promoting international cooperation in designing, constructing and operating nuclear power plants and in ensuring the safety and security of these plants.

A global nuclear liability regime must attract broad adherence from both countries that use nuclear power to generate electricity (generating States) and countries that do not use nuclear power to generate electricity (non-generating States). Accordingly, the CSC was developed to attract broad adherence by both generating States and non-generating States. Specifically, the CSC focuses not only on providing legal certainty on the treatment of legal liability for nuclear damage resulting from a nuclear incident, but also on assuring, in the unlikely event of a nuclear incident, the prompt availability of meaningful compensation with a minimum of litigation and other burdens.

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1. See Johan Rautenbach, Wolfram Tonhauser and Anthony Wetherall, "Overview of the International Legal Framework Governing the Safe and Peaceful Uses of Nuclear Energy – Some Practical Steps", *International Nuclear Law in the Post-Chernobyl Period*, 2006, at p. 7 [hereinafter *Overview*] (available at: www.nea.fr/html/law/chernobyl/welcome.html).

This article first summarises the main features of the CSC² (I) and then discusses why these features make the CSC attractive to both generating States and non-generating States (II). The article then addresses several questions that have arisen since the adoption of the CSC (III).

I. Basic Features of the Convention on Supplementary Compensation (CSC)

Legal certainty

The CSC achieves legal certainty by requiring each member country to have national law on nuclear liability that is based on the Paris Convention,³ the Vienna Convention⁴ or the Annex to the CSC⁵⁶ and that incorporates the provisions in the CSC on jurisdiction, compensation and the definition of nuclear damage. This requirement ensures that the national law of each member country will reflect the basic principles of nuclear liability law, which include: (1) channeling all legal liability for nuclear damage exclusively to the operator;⁷ (2) imposing liability on the operator without the need to demonstrate fault, negligence or intent;⁸ (3) granting exclusive jurisdiction to the courts of the country

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2. For an overview of the CSC, see Ben McRae, “The Compensation Convention: Path to a Global Regime for Dealing with Legal Liability and Compensation for Nuclear Damage”, *Nuclear Law Bulletin* No. 61 (1998) [hereinafter Compensation Convention] (available at: www.nea.fr/html/law/nlb/NLB-61). For a detailed discussion and authoritative interpretation of the CSC and its provisions, see IAEA International Expert Group on Nuclear Liability (INLEX), the 1997 Vienna Convention on Civil Liability for Nuclear Damage and the 1997 Convention on Supplementary Compensation for Nuclear Damage – Explanatory Texts, International Atomic Energy Agency (IAEA). International Law Series No. 3 [STI/PUB/1279] (2007) [hereinafter Explanatory Texts] (available at: <http://ola.iaea.org/>). The Explanatory Texts were developed by INLEX, with the assistance of the IAEA Office of Legal Affairs and Professor Andrea Gioia, to provide a comprehensive study of the global nuclear liability regime that will result from widespread adherence to the CSC. The Explanatory Texts are intended to aid the understanding of the CSC and to clarify the operation of the global nuclear liability regime.
 3. The 1960 Paris Convention on Third Party Liability in the Field of Nuclear Energy, including the amended version that will be established when the 2004 Protocol to Amend the Paris Convention comes into effect. Where a reference only refers to the original version or the amended version, the terms “1960 Paris Convention” and “revised Paris Convention” are used, respectively.
 4. The 1963 Vienna Convention on Civil Liability for Nuclear Damage, including the amended version established by the 1997 Protocol to Amend the Vienna Convention. Where a reference only refers to the original version or the amended version, the terms “1963 Vienna Convention” and “revised Vienna Convention” are used, respectively.
 5. See Compensation Convention, *supra*, at 34-38. The footnotes to the text on the Annex provisions provide a crosswalk to the corresponding provisions of the 1963 Vienna Convention, the revised Vienna Convention and the 1960 Paris Convention on which the Annex provisions were based. See also Explanatory Texts, *supra*, at Section 3.3.2.
 6. Article II.1 of the CSC.
 7. See Explanatory Texts, *supra*, at Sections 1.3.2 and 3.3.2; see also Nuclear Energy Agency (NEA), *Exposé des Motifs*, 1982 [hereinafter *Exposé des Motifs*], at paragraphs 15-37.
 8. See Explanatory Texts, *supra*, at Sections 1.3.1 and 3.3.2; see also *Exposé des Motifs*, *supra*, at paragraph 14.

where a nuclear incident occurs;⁹ (4) permitting liability to be limited in amount¹⁰ and in time;¹¹ and (5) compensating damage without any discrimination based upon nationality, domicile or residence.¹²

Exclusive jurisdiction

The CSC reaffirms the principle that jurisdiction over a nuclear incident lies only with the courts of the country where the incident occurs.¹³ The CSC updates this principle to cover not only nuclear incidents in the territory or territorial sea of a member country but also nuclear incidents in its exclusive economic zone (EEZ).¹⁴ Specifically, the CSC requires other member countries to recognise the exclusive jurisdiction of the courts of the member country where a nuclear incident occurs and to refrain from asserting jurisdiction over the incident. The CSC also requires member countries to recognise and enforce judgments rendered by the courts of the member country with jurisdiction.¹⁵

Compensation

The CSC recognises that widespread acceptance of the basic principles of nuclear liability law (and in particular limiting the amount of liability) is dependent on their linkage to an effective mechanism to assure a meaningful amount of compensation. The CSC assures the availability of a meaningful amount of compensation for nuclear damage in member countries by providing for two tiers of compensation.¹⁶ The CSC fixes the amount of the first tier at 300 million Special Drawing Rights (SDRs). To the extent funds from the liable operator are insufficient to cover the first tier amount, the CSC requires the Installation State¹⁷ to make public funds available to cover the difference. If claims for compensation for nuclear damage exceed SDR 300 million, the CSC requires member countries to contribute to an international fund that will provide the second tier of

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9. See Explanatory Texts, *supra*, at Sections 1.4, 2.9 and 3.1; see also Exposé des Motifs, *supra*, at paragraphs 54-59.
 10. See Explanatory Texts, *supra*, at Sections 1.3.3 and 3.6.1; see also Exposé des Motifs, *supra*, at paragraphs 43-46.
 11. See Explanatory Texts, *supra*, at Sections 1.3.4, 2.6 and 3.3.2; see also Exposé des Motifs, *supra*, at paragraph 47.
 12. See Explanatory Texts, *supra*, at Sections 3.7.
 13. Article XIII of the CSC; see Explanatory Texts, *supra*, at Sections 2.9 and 3.9.1; see also Compensation Convention, *supra*, at 32-33.
 14. See Explanatory Texts, *supra*, at Section 2.9; see also, Andrea Gioia, “Maritime Zones and the New Provisions on Jurisdiction in the 1997 Vienna Protocol and in the 1997 Convention on Supplementary Compensation”, p. 25, *Nuclear Law Bulletin* No. 63 (1999) (available at: www.nea.fr/html/law/nlb/NLB-63).
 15. See Explanatory Texts, *supra*, at Section 3.9.4.
 16. Article III.1 of the CSC; see Explanatory Texts, *supra*, at Section 3.6; see also Compensation Convention, *supra*, at 29-31.
 17. Installation State refers to the member country in which the nuclear installation operated by the liable operator is located. The CSC, the Paris Convention and the Vienna Convention assign certain functions to the Installation State or its national law regardless of where a nuclear incident occurs or whether the courts of the Installation State have jurisdiction over the nuclear incident. This article uses Installation State in place of member country to denote functions that are always assigned to the Installation State or its national law. See e.g., Explanatory Texts, *supra*, at Sections 1.2, 1.4 and 2.8.

compensation. The amount of the second tier of compensation is not fixed, but rather is dependent on the number of nuclear power plants in member countries and will increase as the number of such plants increase. If most generating States adhered to the CSC today, the amount of the second tier currently would be more than SDR 300 million. The CSC also permits a member country to establish a third tier of compensation in excess of the first two tiers. The CSC does not govern the distribution of this third tier, except for one situation relating to member countries with no nuclear installations on their territory.¹⁸

Definition of nuclear damage

The CSC requires member countries to adopt a broad definition of nuclear damage.¹⁹ Specifically, the CSC provides that nuclear damage must include not only personal injury and property damage, but also certain categories of damage relating to impairment of the environment, preventive measures, and economic losses. The CSC also provides that the definition of nuclear incident includes situations where preventive measures are taken in response to a grave and imminent threat of a release of radiation, even though no actual release has occurred.

II. Reasons why CSC is Attractive to both Generating and Non-generating States

The CSC assures meaningful compensation for nuclear damage promptly with a minimum of litigation

Both generating States and non-generating States have a strong interest in assuring that, in the unlikely event of a nuclear incident, their citizens receive meaningful compensation for nuclear damage promptly with a minimum of litigation and other burdens. The CSC has been developed specifically to achieve this objective.²⁰

The principles of nuclear liability law represent a legal approach that focuses on compensating damage promptly with a minimum of litigation. Incorporation of these principles into national law eliminates the need to prove who is responsible for causing a nuclear incident, whether there is fault, negligence or intent, or whether there are any legal defences that might be raised. Under ordinary tort law, resolution of these and other legal issues could take many years, give rise to multiple appeals and divert limited funds from compensating damage to paying legal fees. In contrast, under the principles of nuclear liability law, the only issues to be resolved are whether the nuclear incident caused the damage and, if so, what is the amount of the damage. Accordingly, claims should be paid promptly with little or no litigation.

Making the operator exclusively liable for nuclear damage permits the insurance industry to maximise the amount of coverage it can make available to an operator since it can concentrate all available funds to insure the operator against claims for nuclear damage. If claims could potentially be

18. Article XII.2 of the CSC; see Explanatory Texts, *supra*, at Section 3.5.3. The one exception is that Article XII.2 provides that damage in a member country with no nuclear installations on its territory cannot be excluded on the sole basis of lack of reciprocity.

19. Article I of the CSC sets forth the definitions that must be followed by all member countries. In particular, Article I defines nuclear damage, as well as measures of reinstatement, preventive measures, nuclear incident, law of the competent court and reasonable measures. See Explanatory Texts, *supra*, at Sections 2.3 and 3.5.4; see also Compensation Convention, *supra*, at 31-32.

20. See e.g., Explanatory Texts, *supra*, at Sections 3.1, 3.2 and 3.3.1.

raised against other entities in addition to the operator, the insurance industry would have to allocate the funds available for insuring against nuclear damage claims among policies issued to the operator and these other entities.

Granting exclusive jurisdiction to the courts of the member country where a nuclear incident occurs means all claims will be brought in one forum. Thus, claimants will not have to take part in proceedings in two or more countries to ensure compensation. Requiring all claims to be brought in the courts of one country minimises the possibility that funds available for compensating nuclear damage will be exhausted before all claims are considered. To ensure claimants from all countries receive equal and fair treatment, the CSC requires all claims to be considered without any discrimination based on nationality, domicile or residence.

In addition, since most nuclear damage is likely to occur in the vicinity of the nuclear incident, most claimants will not have to participate in proceedings far from where they live. This is especially important in the case of nuclear incidents during transportation where the responsible operator may be located in a country thousands of miles from the site of the incident. In this regard, the CSC is especially attractive to those countries off whose coast there are maritime shipments of nuclear material since it provides a coastal State with exclusive jurisdiction over nuclear incidents in its EEZ.

The CSC also requires member countries to recognise final judgments rendered by the courts of the member country with exclusive jurisdiction over a nuclear incident and to make them enforceable without re-examination of the case. This greatly benefits claimants since, in the absence of such a treaty obligation, it is unclear whether and, if so, under what conditions, the courts of one country will recognise and enforce judgments rendered by a court in another country. This is especially important in cases where the entity against the judgment is issued has few, if any, assets located in the country where the judgment is issued.

The CSC recognises that prompt compensation with minimum litigation is only attractive if there is an assured and meaningful amount of compensation available to claimants. The CSC addresses this concern by requiring the Installation State to guarantee the availability of a first tier amount of SDR 300 million and establishing an international fund to provide an additional source of compensation.

The provisions of the CSC relating to the international fund were developed to be especially attractive to non-generating States. First, most of the contributions to the international fund will come from generating States. Specifically, 90% of the contributions to the international fund will be based on the installed nuclear capacity in a member country and thus will come from only those member countries where reactors are located. The remaining 10% of the contributions will be based on the UN rate of assessment of a member country. Given that many generating States have a large UN rate of assessments, it is likely that, as a group, non-generating States will provide no more than 2 or 3% of the contributions to the international fund. Second, one-half of the international fund is reserved exclusively for transboundary damage (that is, damage outside the Installation State), which is the type of damage most likely to affect non-generating States.

In addition to assuring the availability of a meaningful amount of compensation, the CSC makes this compensation available to cover a broad range of damage. Specifically, the CSC requires all member countries to adopt a broad definition of nuclear damage, which covers all categories of damage that are normally covered today. Moreover, the CSC makes clear that application of the definition is based on the law of the competent court (that is, the law of the country where the nuclear incident occurs) and thus will reflect the normal practice in the country where most of the damage is likely to occur.

The CSC provides legal certainty necessary for international cooperation in designing, constructing and operating nuclear power plants and in ensuring the safety and security of these plants

Both generating and non-generating States will benefit from the increased use of nuclear power to generate electricity. Generating States, as well as non-generating States that are connected to electrical grids for which a portion of the electricity is generated by nuclear power, will benefit from the generated electricity. In addition, all countries will benefit significantly from the increased use of nuclear power because of the beneficial effects on the global economy, on energy prices and supplies, and on efforts to address global climate change. Thus, both generating States and non-generating States have an interest in establishing a legal framework that facilitates the design, construction and operation of nuclear power plants and that removes legal disincentives to efforts to ensure their safety and security.

The same principles of nuclear liability law that result in prompt compensation with a minimum of litigation also create the legal certainty that is essential for investors, nuclear suppliers and plant operators (including electrical utilities) to engage in nuclear projects. Specifically, many investors and nuclear suppliers would not participate in nuclear projects in the absence of channelling liability exclusively to the operator and of granting exclusive jurisdiction to the courts of the member country where a nuclear incident occurs. Operators also are more likely to engage in nuclear projects if they know the extent of their potential liability exposure and can secure insurance or take other measures to ensure they will have sufficient funds available to cover their potential exposure in the event of a nuclear incident. This knowledge also permits the rates charged for electricity generated by nuclear power plants to reflect the costs associated with insurance or other measures. As noted previously, making the operator exclusively liable permits the insurance industry to maximise the amount of coverage it can make available to an operator since it can concentrate all available funds in a single policy.

III. Frequently Asked Questions

Following adoption of the CSC in 1997, there has been considerable discussion concerning the interpretation of certain provisions in the CSC and how the CSC would operate. These discussions have made clear that a better understanding of the CSC would facilitate widespread adherence.²¹ The following section sets forth a number of the questions that have been asked and provides responses.²²

Why should a country adhere to the CSC when the current international nuclear liability regimes result in complexity and diversity of obligations?

Currently countries might adhere to the 1963 Vienna Convention, the revised Vienna Convention, the 1960 Paris Convention, or the revised Paris Convention, as well as the Joint

21. See Overview *supra*, at 27-28, for a general description of the concerns expressed and the formation of INLEX to respond to these concerns. A summary of the ongoing work of INLEX on liability can be found by going to the subsection on liability at Office of Legal Affairs homepage at the IAEA website (<http://ola.iaea.org>).

22. The responses reflect the views of the author. In forming these views, however, the author has benefited greatly from the Explanatory Texts and from the presentations and papers prepared for and the discussion conducted in the context of INLEX and the NEA Nuclear Law Committee.

Protocol²³ that links these conventions.²⁴ This situation inevitably results in complexities and diversity of obligations and will continue until there is widespread adherence to a global nuclear liability regime. The CSC was adopted to provide an overarching international liability instrument that would minimise complexities and diversity of obligation by requiring the same treatment by member countries with respect to minimum compensation amounts, jurisdictional rules and the definition of nuclear damage and by requiring member countries to adopt national laws based on the principles of nuclear liability law as set forth in the Paris Convention, the Vienna Convention or the Annex to the CSC.²⁵ Thus, the solution to the current complexity and diversity of obligations is widespread adherence to the CSC.²⁶

Does the Joint Protocol provide an alternative to the CSC for achieving a global nuclear liability regime?

The Joint Protocol has proven to be an important measure in building a link between countries that adhere to the Vienna and Paris Conventions and can continue to serve that purpose in the interim before widespread adherence to the CSC is achieved.²⁷ However, it cannot serve as the basis for a global regime since it does not mandate the same treatment with respect to minimum compensation amounts, jurisdictional rules and the definition of nuclear damage. Most non-generating States, as well as many generating States, are unwilling to adhere to any instrument that would put them in treaty relations with other countries that could continue to follow the compensation and jurisdictional provisions in the 1960 Paris Convention or the 1963 Vienna Convention. In addition, unlike the CSC, the Joint Protocol does not contain any mechanism to supplement the funds available to compensate nuclear damage.²⁸

What does it mean that the CSC is free standing?

As a free standing instrument, the CSC offers a country the means to become part of the global nuclear liability regime without also having to become a member of the Paris Convention or the Vienna Convention.²⁹

23. The 1988 Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention [hereinafter Joint Protocol]; see, for general background on the Joint Protocol, Otto von Busekist, "A Bridge Between Two Conventions on Civil Liability for Nuclear Damage: the Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention", *Nuclear Law Bulletin* No. 43, p. 10 (1989) (available at: www.nea.fr/html/law/nlb/nlb-1968-2000.html).

24. The Vienna Convention is a global instrument to which any country may adhere. The Paris Convention is a regional instrument to which adherence is limited to countries that belong to the OECD or that are approved for adherence by all existing members. Adherence to the Joint Protocol is limited to those countries that adhere to either the Paris Convention or the Vienna Convention.

25. See e.g., Compensation Convention, *supra*, at 25-28.

26. See IAEA Doc. GC(50)/INF/2 (Appendix 3 to the Nuclear Safety Review for the Year 2005) [a report on the work of INLEX (2006)] (hereinafter INLEX Report available at: www.iaea.org/Publications/Reports/index.html), at Section B.2.

27. See INLEX Report, at Section B.2.1.

28. See Compensation Convention, *supra*, at 26-27.

29. See Explanatory Texts, *supra*, at Section 3.3.1; see also Compensation Convention, *supra*, at: 25-26.

Can a country ratify, or adhere to, the 1963 Vienna Convention now that the revised Vienna Convention has come into effect?

Currently a country can decide to adhere to either the 1963 Vienna Convention or the revised Vienna Convention.³⁰ Regardless of whether a country decided to adhere to the 1963 Vienna Convention or the revised Vienna Convention, if that country adhered to the CSC, it would have to comply with the overarching requirements of the CSC, including those relating to compensation, jurisdiction and the definition of nuclear damage.

Is complete harmonisation of legal details and definitions necessary for an effective and protective global regime?

During the negotiation preceding adoption of the CSC, there was a thorough examination of the legal provisions and definitions related to nuclear liability. This examination identified those provisions and definitions necessary for an effective and protective global regime. For most of these provisions and definitions, their treatment in the 1960 Paris Convention, the 1963 Vienna Convention, the revised Vienna Convention and the Annex to the CSC was determined to be sufficiently harmonised to support an effective and protective global regime. For some provisions and definitions, however, it was determined that their treatment needed to be exactly the same in all member countries in order to support an effective and protective global regime. These provisions and definitions (relating primarily to compensation, jurisdiction and the definition of nuclear damage) were included in the body of the CSC so that all member countries must comply with them. This approach recognises that complete harmonisation of legal details and definitions not only are not necessary to ensure an effective and protective global regime but in fact could serve as a disincentive to broad adherence to a global regime. Accordingly, there is no need to undertake the elaboration of a new overarching international liability instrument since the CSC already achieves the level of harmonisation necessary for an effective and protective regime.³¹

What is the relationship between the definitions of nuclear damage in the 1963 Vienna Convention and the revised Paris Convention and the definition of nuclear damage in the CSC?

The definition of nuclear damage in the 1963 Vienna Convention explicitly includes personal injury and property damage and permits the inclusion of any additional category of damage that is recoverable under the law of the competent court. The CSC enhances the definition of nuclear damage by explicitly identifying five additional categories of damage relating to impairment of the environment, preventive measures, and economic loss that must be compensated “to the extent determined by the law of the competent court”. At the same time, the CSC eliminates the ability of a court to consider “any other loss or damage so arising or resulting if and to the extent that the law of the competent court so provides” as provided for in the definition of “nuclear damage” in the 1963 Vienna Convention. This elimination should have no practical effect since the five additional categories identified in the definition in the CSC should cover any type of damage that is likely to be compensated by a court today.³²

30. See e.g. Explanatory Texts, *supra*, at Section 2.1.

31. See INLEX Report, at Section B.2.1.

32. See Explanatory Texts, *supra*, at Section 2.3.1.

The definition of nuclear damage in the revised Paris Convention differs from the definition in the CSC in two ways. First, the revised Paris Convention includes the word “direct” to qualify the economic interest, which must be adversely affected by impairment of the environment. This qualifier does not appear in the definition in the CSC. Inclusion of “direct” appears to be an attempt to provide guidance on how a court should consider remoteness in determining the extent to which damage is covered. The court, however, still must make the ultimate determination of whether damage is too remote to recover.³³

Second, the definition of nuclear damage in the revised Paris Convention, unlike the definition in the CSC, does not contain a category of damage for “any other economic loss, other than caused by impairment of the environment, if permitted by the general law on civil liability of the competent court”. This deletion could narrow the scope of damage that may be considered by the competent court. While the other categories of damage may be sufficiently broad to permit a court in a member country to compensate all situations that might be otherwise be covered by the general law on civil liability in that country, the definition in the CSC is broader and allows more scope for a court to compensate economic loss.³⁴

A country that is a member of the CSC is obliged to follow the definition of nuclear damage in the CSC, even if it also adheres to the 1960 Paris Convention, the revised Paris Convention, or the 1963 Vienna Convention. The definition of nuclear damage in the revised Vienna Convention is the same as the definition in the CSC.³⁵

Why does the definition of nuclear damage in the CSC include the five additional categories of damage only “to the extent determined by the law of the competent court”?

As noted previously, the definition of “nuclear damage” in the 1963 Vienna Convention was sufficiently broad to encompass all types of damage resulting from a nuclear incident but the parameters of the types of damage actually covered were dependent on the law of the competent court. The addition of five explicit categories of damage was intended to require the competent court to consider such damage. The addition of the phrase “to the extent determined by the law of the competent court” was intended to emphasise that the breadth of such coverage continued to be left for the competent court to determine. This approach has the benefit of letting national courts determine the specific application of these categories of damage within national law, while ensuring these kinds of damage are covered. While this approach may result in slightly different coverage in different situations, it recognises the important role that courts play in applying concepts such as “damage” that cannot be precisely defined in advance to address all possible situations.³⁶

33. See Explanatory Texts, *supra*, at Section 2.3.2.

34. See Explanatory Texts, *supra*, at Section 3.5.4.

35. See Explanatory Texts, *supra*, at Sections 3.4 and 3.5.4.

36. See Explanatory Texts, *supra*, at Section 2.3.2.

Why does the definition of nuclear damage in the CSC not encompass compensation for general degradation of the environment in cases where there is no economic loss and where no measures of reinstatement are taken?

The category of damage concerning the “cost of measures of reinstatement of impaired environment, unless such loss is insignificant, if such measures are actually taken or are to be taken...” and the category of damage concerning the “loss of income deriving from an economic interest in any use or enjoyment, incurred as a result of a significant impairment of the environment...” are sufficiently broad to permit a competent court to cover any quantifiable economic loss resulting from environmental damage. The competent court would have to determine where to draw the line on the degree of proximate cause required in applying these categories of damage. In particular, the competent court might find that these categories covered situations such as hotels or fishing businesses relying on beaches or fish stocks harmed by releases and perhaps even situations such as subsistence fisheries. The definition, however, does not cover purely non-economic losses such as loss of aesthetic value with no related quantifiable economic loss.³⁷ This delineation of where compensation could be made available is consistent with the current international practice in dealing with environmental damage.³⁸

To what extent does the definition of nuclear damage in the CSC cover economic loss sustained as a result of perceived risk?

The CSC revised the definition of “nuclear incident” to include situations where there is no release of radioactive material but there exists a “grave and imminent threat” of nuclear damage. This new type of nuclear incident creates the possibility that, in certain situations, the definition of nuclear damage may be sufficiently broad to cover damage that results from the perception that radioactive material has been or will be released. Specifically, in those situations where there is no release of radioactive material but there is a situation which creates a grave and imminent threat of nuclear damage, such that there is a nuclear incident and that preventive measures are taken to address the grave and imminent threat, then the cost of those preventive measures and any further costs or damage related thereto are covered by the revised definition of “nuclear damage”. The competent court must determine what further loss or damage, if any, was caused by the undertaking of those preventive measures. This broad reading is consistent with the objective to provide that, if there is a nuclear incident, any claim for damage resulting from the incident must be brought within the framework of

37. See Explanatory Texts, *supra*, at Section 2.3.2.

38. See N. J. L. T. Horbach, “International Instruments on Civil Liabilities Applicable to Other Ultra-hazardous Activities”, Unpublished Presentation at IAEA Regional Workshops on Liability for Nuclear Damage, Lima, Peru (December 11-13, 2006) and Sydney, Australia (November 28-30, 2005). In her presentation, Professor Horbach compared the CSC to the Lugano Convention on Civil Liability Resulting from Activities Dangerous to the Environment, the Convention on Civil Liability for Damage Caused During the Carriage of Dangerous Goods by Road, Rail and Inland Navigation, the Convention on Liability and Compensation for Damage Resulting from Carriage of Hazardous and Noxious Substances by Sea, the Protocol to the Basel Convention on Liability and Compensation for Damage Resulting from Transboundary Movements of Hazardous Waste and their Disposal, the Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters, the International Convention on Civil Liability for Oil Pollution Damage, the Bunkers Convention on Civil Liability for Bunker Oil Pollution Damage, the Convention on International Liability for Damage Caused by Space Objects. Professor Horbach concluded that the treatment in the CSC of damage and, in particular environmental damage, was comparable to and, in some cases, more expansive than the treatment in the other instruments. See also Explanatory Texts, *supra*, at Section 2.3.2.

the CSC and cannot be brought outside that framework. The definitions of “preventive measures” and “reasonable measures” provide guidance to a competent court in determining what damage might be considered to be caused by the undertaking of preventive measures in response to a grave and imminent threat.

In future situations where there are rumours that a nuclear incident has taken place or is about to take place, the liable operator and the Installation State should work closely with other countries and concerned communities to try to minimise any unfounded perceptions that may arise and to alleviate any economic loss associated with such situations. The IAEA also can assist in such situations by providing a source of independent advice on the level of risk, if any, that might exist.

Finally, if the existence of a nuclear incident cannot be demonstrated to the court that would be the competent court under the CSC, then the CSC will not come into effect and a court will apply general tort law to determine whether a claim could be based on economic loss resulting from the perceived risk and, if so, against whom such a claim could be brought.³⁹

What type of economic loss is covered by the definition of nuclear damage in addition to economic loss caused by impairment of the environment?

The last category of nuclear damage concerns “any other economic loss, other than that caused by the impairment of the environment” which can only be compensated “if permitted by the general law on civil liability of the competent court”. By using the expression “the general law on civil liability of the competent court”, the CSC makes clear that the decision by the competent court on what economic loss can be covered is to be made on the basis of the substantive tort law of the member country with jurisdiction. Accordingly, the last category of nuclear damage covers economic losses to the extent the substantive tort law of the member country with jurisdiction would cover such losses occurring from sources other than a nuclear incident, for example, from an oil spill or from a release of a hazardous substance. In contrast, each of the other four additional categories of damage must be covered to the extent that the competent court decides proper, even if that category of damage would not ordinarily be covered by the law of the competent court.⁴⁰

Why does the CSC not mandate that an Installation State make the first tier of compensation available for nuclear damage wherever suffered (that is, in both member countries and non-member countries)?

As a general rule, the CSC provides that the first tier of compensation will be available for damage wherever suffered. The CSC, however, gives an Installation State the discretion to make funds from the first tier unavailable to compensate nuclear damage in non-member countries.⁴¹ The exercise of this option is subject to the obligations of the Installation State under other conventions on nuclear liability.⁴² This approach increases the incentive for all countries (including countries that do not have

39. See INLEX Report, at Section B.2. 2; see Explanatory Texts, *supra*, at Section 2.3.2.

40. See Explanatory Texts, *supra*, at Section 2.3.2.

41. Article III.2 (a) of the CSC.

42. For example, a member country that adhered to the Vienna Convention could not exclude coverage of nuclear damage in another country that adhered to the Vienna Convention, even if that country was not a member country. Likewise, a member country that adhered to the Paris Convention could not exclude coverage of nuclear damage in another country that adhered to the Paris Convention and a member

nuclear installations located on their territory) to adhere to the CSC.⁴³ As noted previously, widespread adherence to the CSC by both generating States and non-generating States is necessary to minimise the current complexity and diversity of obligations relating to liability for nuclear damage.

Why does the CSC prohibit the use of the international fund (that is, the second tier of compensation) to cover nuclear damage in non-member countries?

The CSC limits the use of the international fund to compensate nuclear damage that occurs in a geographic scope that is precisely defined and that excludes non-member countries.⁴⁴ There are a number of reasons for the exclusion of nuclear damage in non-member countries. First, this approach increases the incentive for countries to adhere to the CSC. Second, the international fund is based on contributions of public funds by member countries. Third, contribution of public funds to the international fund is a responsibility that is created by the CSC and that does not otherwise exist under international law.

Could an installation state exercise the option to exclude damage suffered in a non-member country from the first tier of compensation with a proviso that damage in non-member countries suffered by nationals of a member country would be covered?

With respect to first tier compensation, the law of an Installation State may exclude damage suffered in a non-member country. When an Installation State exercises its option to exclude damage suffered in non-member countries, this exclusion applies to all damage suffered in such countries even if suffered by nationals of a member country. In other words, provided that damage is suffered within the “geographical scope” of the CSC, nationals of non-member countries also can obtain compensation; conversely, if damage is suffered outside that “geographical scope”, compensation cannot even be obtained by nationals of member countries. A contrary result would be inconsistent with the non-discrimination principle.⁴⁵

How does the CSC make an adequate amount of compensation available?

The CSC was developed specifically to address concerns that the levels of compensation required by the 1963 Vienna and 1960 Paris Conventions were inadequate. As noted previously, the CSC requires Installation States to assure the availability of a first tier compensation amount of SDR 300 million and requires member countries to contribute to an international fund that will supplement the amount of compensation available. When widespread adherence to the CSC is achieved, these two tiers will make more than SDR 600 million available to compensate nuclear

country that adhered to the Joint Protocol could not exclude coverage of nuclear damage in another country that adhered to the Joint Protocol. In addition, the revised Paris and the revised Vienna Conventions restrict the extent to which damage in other countries can be excluded.

43. See e.g. Explanatory Texts, *supra*, at Sections 2.2.3 and 3.5.3.

44. Articles 111.2.b, V and XI.1.b of the CSC. See Explanatory Texts, *supra*, at Section 3.5.3.

45. See Explanatory Texts, *supra*, at Section III.7 (pp. 87-89).

damage in member countries. Thus, widespread adherence to the CSC is the best way to ensure adequate compensation.⁴⁶

Does the CSC limit the amount of compensation?

The CSC establishes two tiers of compensation to cover nuclear damage in member countries. While the first tier is fixed at SDR 300 million, the second tier will grow as the use of nuclear power to generate electricity increases.⁴⁷

The CSC also permits an Installation State to establish a third tier of compensation to cover nuclear damage not covered by the first two tiers. As noted previously, this tier is not subject to the requirements of the CSC, including, with one minor exception, the requirement to cover nuclear damage in other member countries.⁴⁸ However, in order to encourage widespread adherence to the CSC, each Installation State should give consideration to establishing a third tier and making it available to cover nuclear damage in all member countries. In establishing a third tier, an Installation State should endeavour to make it as high as feasible. At a minimum, an Installation State should limit the liability of an operator to a level no lower than the amount of insurance reasonably available. Consideration also should be given to other mechanisms to increase the funds available to compensate nuclear damage. For example, in some countries, it may be feasible to require operators to pool their resources to create a form of self-insurance that will make more funds available in the event of a nuclear incident.

Does the CSC limit the liability of the operator?

The CSC focuses on making an assured amount of compensation available. Accordingly, the CSC does not establish either a floor or a ceiling on the liability of the operator or require an Installation State to limit the liability of the operator. There is an expectation, however, that the liable operator will provide the funds for the first tier of compensation and, if the liable operator does not do so, the CSC requires the Installation State to make up the difference between the amount provided by the liable operator and SDR 300 million.

Some countries have imposed unlimited liability on operators. Unlimited liability, however, does not translate into compensation for damage, except to the extent that the operator has insurance or other financial assets to pay the compensation.⁴⁹

Against whom should a claim be brought if the amount of nuclear damage exceeds the limit on the liability of the operator?

If an Installation State limits the liability of an operator to an amount lower than the amount of nuclear damage, questions may arise as to whether the operator is technically liable for damage exceeding the limit so established, and doubts may consequently arise as to whether the claimants

46. Article III.1 of the CSC; see INLEX Report, at Section B.2.4; see Explanatory Texts, *supra*, at Section 3.6; see also Compensation Convention, *supra*, at 29-31.

47. See Explanatory Texts, *supra*, at Section 3.6.2.

48. Article XII.2 of the CSC; see Explanatory Texts, *supra*, at Section 3.5.3.

49. See e.g. Explanatory Texts, *supra*, at Section 2.4.3.

have to bring separate proceedings against the operator and against the Installation State, and, if so, what is the basis for the suit against the Installation State. The CSC imposes an obligation on a member country to ensure that its national law resolves any such questions in a manner that does not require claimants to bring separate proceedings according to the origin of the funds provided for compensation.⁵⁰

Must an installation state make public funds available to the member country whose courts have jurisdiction in the event of a nuclear incident occurring in the course of transport of nuclear material?

As noted previously, the CSC imposes an obligation on the Installation State to make public funds available to compensate nuclear damage to the extent the liable operator does not make SDR 300 million available. In the event of a nuclear incident during transportation that results in another member country having jurisdiction over the incident, the Installation State must make these public funds available to the system of disbursement of the member country whose courts have jurisdiction. This approach is consistent with the provisions in the CSC that there should be a single system of disbursement and that persons suffering damage need not bring separate proceedings because of the origin of the funds.⁵¹

May a member country invoke jurisdictional immunities to avoid its obligations under the CSC to make funds available?

A member country cannot invoke jurisdictional immunities or take other actions to avoid making funds available pursuant to the CSC. Failure to make funds available would be inconsistent with the obligations of the member country under the CSC. No inference to the contrary should be drawn from the fact that the CSC, unlike both the revised Vienna Convention and the revised Paris Convention, does not contain explicit provisions that a member country can be sued for compensation of nuclear damage and may not invoke jurisdictional immunities.⁵²

Must the courts of all member countries enforce a judgment by the competent court?

A judgment by a court of the member country with exclusive jurisdiction over a nuclear incident is enforceable in the courts of another member country as if the judgment were a judgment by a court of that country.⁵³ Reconsideration of the merits of the case is never permitted. Thus, the CSC provides very substantial assurance that a judgment by a competent court will be enforced in the courts of another member country. In the absence of the CSC, the enforceability of judgments would be uncertain and subject to rules that vary widely from country to country with many exceptions.⁵⁴

50. Article X.2 of the CSC; see Explanatory Texts, *supra*, at Section 3.9.3.

51. Article X of the CSC; see Explanatory Texts, *supra*, at Section 3.8.

52. See Explanatory Texts, *supra*, at Section 3.9.3.

53. There are three minor exceptions to the general rule. The exceptions are: (1) judgments obtained by fraud; (2) judgments against a party who was not given a fair opportunity to present his case; and (3) judgments against public order or contrary to fundamental standards of justice. Given the nature of the regime established by the CSC, it is highly unlikely these exceptions could ever be invoked.

54. Article XIII.5-7 of the CSC; see Explanatory Texts, *supra*, at Sections 1.4, 2.10 and 3.9.4.

How difficult would it be to bring a claim under the CSC?

As noted previously, the CSC minimises the need for litigation and grants exclusive jurisdiction to the countries where most of the damage is likely to occur. Thus, bringing claims under the CSC should be considerably less difficult than under ordinary tort law where potential claimants might have to engage lawyers for protracted periods of time and, in some cases, deal with a distant foreign court. In fact, since a claimant needs only show causation and amount of damage, there is a strong likelihood that most claims could be resolved through an insurance claims adjustment process without resort to the court system. As a practical matter, if a nuclear incident were to occur, potential claimants would be informed very quickly as to how to file claims with insurance adjustors and such claims would likely be paid in a prompt and consistent manner. Resort to judicial proceedings would likely only be needed where there was a dispute as to whether a particular type of damage was covered by the competent court.

Does the CSC require non-generating States and, in particular, those member countries with no nuclear installations to contribute to the international fund?

The CSC requires all member countries to contribute to the international fund, except for those member countries that have no nuclear installations and that pay the minimum UN rate of assessment.⁵⁵ As noted previously, only a small percentage of the total contributions to the international fund will come from non-generating countries. Although small, this contribution represents a very important element of international solidarity. In addition, given the interdependencies in the world today, all countries will benefit from the increased use of nuclear power to generate electricity. Moreover, a member country, regardless of whether there are any nuclear installations located on its territory, receives important advantages by adhering to the CSC, including the assurance of meaningful compensation and exclusive jurisdiction over nuclear incidents in its territory, territorial sea or EEZ.

Must each member country, including a member country with no nuclear installations on its territory, have national law on nuclear liability?

The CSC is clear that a member country must have national law based on the Paris Convention, the Vienna Convention or the Annex to the CSC.⁵⁶ A member country also must implement the overarching provisions in the CSC, including those related to jurisdiction, compensation and the definition of nuclear damage.

The drafters of the CSC recognised that the need to adopt national law might be a disincentive to some countries, especially a country that has no nuclear industry and thus has no need for a nuclear liability regime, except as a contingency in the event of an incident in its territory, territorial sea or EEZ. Accordingly, the CSC is clear that a member country need not enact implementing legislation to the extent its national legal framework makes treaty provisions directly applicable without the need for legislation. The CSC also is clear that a member country with no nuclear installations on its territory

55. Article IV of the CSC; see Explanatory Texts, *supra*, at Section 3.6.2. See also Compensation Convention, *supra*, at 30.

56. Article II.1 of the CSC.

need only implement those provisions of the CSC necessary to give effect to its obligations under the CSC.⁵⁷

The development of generic minimum legislation both for countries with nuclear installations and for countries without nuclear installations would facilitate adherence to the CSC. It would be particularly helpful to identify those provisions that only apply to an Installation State, those provisions that can be self-executing in countries that permit self-executing treaty obligations, those provisions that require affirmative action by a member country, and those differences, if any, that arise because a country bases its national law on the 1960 Paris Convention, the revised Paris Convention, the 1963 Vienna Convention, the revised Vienna Convention or the Annex to the CSC.⁵⁸

What is the applicable law in the event of a nuclear incident during transportation?

The CSC is clear that the applicable law is the law of the competent court.⁵⁹ In other words, the applicable law for a nuclear incident is the law of the court of the member country that has exclusive jurisdiction over the incident. In the case of a nuclear incident during transportation occurring in the territory, territorial sea or EEZ of a member country, the applicable law would be the law of the courts of that country and not the law of the courts of the Installation State.⁶⁰

Will the competent court always apply its law?

The CSC defines the “law of the competent court” to be the law of the court having jurisdiction under the CSC, including any rules relating to conflict of laws. In applying its rules relating to conflict of laws, a competent court may determine that the applicable substantive law is the substantive law of another country. However, as noted previously, many of the provisions of the CSC, as well as the Paris Convention and the Vienna Convention, explicitly direct the competent court to apply its substantive law or the substantive law of the Installation State or another country.⁶¹ This direction takes precedence over any different outcome that would result from the normal application of the rules

57. Chapeau of Annex to CSC; see Explanatory Text at Sections 1.2 and 3.4.

58. See INLEX Report, at Section B.2.3.

59. Article XIV.2 of the CSC; see Explanatory Texts, *supra*, at Section 3.10.

60. In the matter of applicable law, the result under the Joint Protocol appears to differ from the explicit rule in the CSC that the applicable law is the law of the competent court. The Joint Protocol provides that the applicable convention is always the convention to which the Installation State adheres. While the Joint Protocol does not explicitly address applicable law, it is reasonable to infer that the applicable law would be the law of the Installation State adopted pursuant to the applicable convention and not the law of the country with jurisdiction if that law were adopted pursuant to the convention that is not applicable. Some have suggested that, in such a situation, the courts of the Installation State should have jurisdiction. These and related issues on the operation of the Joint Protocol have been the subject of considerable discussion and have not been resolved at the time of this article. These issues relate only to the Joint Protocol and thus their ultimate resolution will not affect how the CSC operates.

61. Article XIV.1 of the CSC recognises this direction by qualifying the rule that the applicable law is the law of the competent court with the phrase “subject to the provisions of this Convention, the Vienna Convention or the Paris Convention, as appropriate.” See Explanatory Texts, *supra*, at Sections 1.4, 2.8 and 3.10. It would facilitate adherence to the CSC to expand upon the discussion in the Explanatory Texts by developing a list of the relevant provisions and identifying for each provision whether it is to be applied by reference to the law of the competent court, the law of the Installation State or another basis.

of the competent court relating to conflict of laws. Thus, the CSC provides greater certainty as to what substantive law will apply with respect to a nuclear incident in a member country than is the case in normal tort litigation.⁶²

Why does the CSC qualify the rule on the applicable convention by the phrase “as appropriate”?

As noted previously, the CSC requires a member country to base its national law on the Paris Convention, the Vienna Convention or the Annex to the CSC. The CSC is clear that, with respect to the provisions of law of a particular member country that are based on the Paris Convention, the Vienna Convention or the Annex to the CSC, the instrument on which those provisions are based is the applicable convention to the exclusion of the other two instruments. However, unlike the Joint Protocol,⁶³ the CSC contains a number of overarching provisions that apply to all member countries and must be reflected in their national law. The use of the phrase “as appropriate” recognises that these overarching provisions in the CSC take precedence over provisions in the Paris Convention and the Vienna Convention⁶⁴ to the extent those provisions are inconsistent with the overarching provisions in the CSC.⁶⁵

Does the CSC mandate uniform periods of extinction and prescription?

The treatment of periods of extinction and prescriptions is dependent on whether a member country has national law based on the 1960 Paris Convention, the revised Paris Convention, the 1963 Vienna Convention, the revised Vienna Convention or the Annex to the CSC. These instruments provide for different periods of extinction and prescription within which claims must be brought. The differing treatment of periods of extinction and prescription in the various instruments resulted from attempts to balance the constraints imposed by the availability of insurance (in most cases limited to 10 years) and the desire to ensure compensation for all damage, and in particular, latent personal injuries. All the instruments, however, provide an Installation State with sufficient flexibility to permit claims to be brought beyond 10 years. In order to promote broader adherence to the CSC, Installation

62. The rules relating to conflict of laws vary from country to country. For example, different approaches to dealing with conflict of laws can result in the applicable substantive law being that of the country where an accident occurs, or a country where damage occurs, or a country where a tortfeasor resides or has substantial ties.

63. The Joint Protocol differs fundamentally from the CSC in that the Joint Protocol establishes no overarching provisions that apply to all countries. Rather, the Joint Protocol merely provides for a mutual extension of the Paris Convention and the Vienna Convention. Specifically, if a nuclear incident occurs for which an operator is liable under both the Vienna Convention and the Joint Protocol, the Vienna Convention shall apply to cover nuclear damage suffered not only in the territory of Parties thereto, but also in the territory of Parties to both the Paris Convention and the Joint Protocol; conversely, if an incident occurs for which an operator is liable under both the Paris Convention and the Joint Protocol, the Paris Convention shall apply to cover nuclear damage suffered not only in the territory of Parties thereto, but also in the territory of Parties to both the Vienna Convention and the Joint Protocol. Thus, the Joint Protocol provides that either the Paris Convention or the Vienna Convention shall be the applicable convention to the exclusion of the other convention. See Explanatory Texts, *supra*, at Section 1.5.

64. The provisions of the Annex to the CSC were developed to be consistent with the overarching provisions in the CSC.

65. Article XIV.1 of the CSC; see Explanatory Texts, *supra*, at Section 3.10.

States should consider using this flexibility to ensure compensation is available for latent personal injuries, even if insurance is not available.⁶⁶

Is the availability of insurance essential to an effective and protective global nuclear liability regime?

The importance of insurance to effective liability regimes has long been recognised. Specifically, insurance is the primary mechanism by which operators assure that sufficient funds will be available to pay claims brought under liability regimes. In fact, the first tier amount of SDR 300 million reflects, in large part, the fact that SDR 300 million was the amount of insurance generally available to cover nuclear incidents at the time the CSC was adopted.

However, the availability of insurance to cover all claims is not essential to an effective and protective global nuclear liability regime. The insurance industry makes its decisions on what types of damage to cover on the basis of a number of factors including the presence of an insurable economic interest and the ability to assign a level of risk. Prior to the adoption of the CSC, the insurance industry indicated it most likely would not be able to insure certain types of damage under consideration, including certain types of environmental damage and claims brought more than ten years after a nuclear incident. The inclusion of these types of damage within the CSC represents a decision that such damage should be covered, regardless of whether insurance is available. Accordingly, Installation States should work with operators to develop mechanisms to cover claims for damage for which insurance is not available.⁶⁷

Does the CSC cover acts of terrorism?

The CSC does not cover a nuclear incident caused by an act of “armed conflict, hostilities, civil war or insurrection”. The phrase “... armed conflict, hostilities, civil war or insurrection” refers to international or non-international armed conflict and does not refer to an act committed in the context of a situation that remains below the threshold of an armed conflict governed by international humanitarian law. Thus, the CSC does cover acts of terrorism.⁶⁸

Does the CSC address the issue of State liability?

The CSC is clear that it does not affect the rights and obligations of member countries, if any, under the general rules of public international law. All of the rights, obligations and responsibilities of a member country under the CSC arise solely from its adherence to the CSC and, in some cases, to the Paris Convention, the Vienna Convention or the Joint Protocol.⁶⁹

66. See INLEX Report, at Section B.2.5; see Explanatory Texts, *supra*, at Section 2.6; see also Compensation Convention, *supra*, at 37.

67. The magnitude of this issue should not be exaggerated. As a practical matter, insurance is available to cover the vast majority of the damage covered by the CSC, including most damage within the five additional categories of damage.

68. See Explanatory Texts, *supra*, at Section 2.5.

69. Article XV of the CSC; see Explanatory Texts, *supra*, at Sections 2.2.1 and 3.5.

Conclusion

Establishment of a global nuclear liability regime based on the CSC is essential to fully realising the potential benefits from nuclear power with respect to economic development, living standards, energy prices and supplies, and the environment. Since the adoption of the CSC in 1997, considerable effort has been expended to provide a better understanding of the CSC and to clarify how its provisions operate to establish a legal framework that achieves the complementary objectives of facilitating commercial development of nuclear power and assuring, in the unlikely event of a nuclear incident, the prompt availability of meaningful compensation with a minimum of litigation and other burdens. This effort has provided a sound basis on which both generating States and non-generating States can now give serious consideration to adhering to the CSC and thereby establish a global nuclear liability regime.

International Pooling of Operators' Funds: An Option to Increase the Amount of Financial Security to Cover Nuclear Liability?

Discussion Paper for the IAEA INLEX Group Meeting on 21-22 June 2007*

by Norbert Pelzer**

The problem

Financial security to cover the third party liability of the operators of nuclear installations is nearly exclusively provided by the insurance industry. The recent revision exercises of the international nuclear liability conventions resulted in higher liability amounts and in a broader concept of compensable nuclear damage. This marks a new challenge for the insurance industry: its financial capacity is not unlimited, and there seems to emerge difficulties to cover the new liability in full.

According to the concept of the international nuclear liability conventions, coverage and liability amount are interlinked. The problems which insurers might have with the revised conventions could therefore put the results of the revision exercises at risk. In general terms, the shortcomings in the size and extent of coverage have a direct impact on the size and extent of the operator's liability. As a consequence, today liability amounts exist worldwide which largely correspond to the insurance capacity but does not in every case match the nuclear risk. This situation is, of course, unfortunate for victims of a nuclear incident. It therefore has triggered justified criticism by the general public and does not support public acceptance of the peaceful uses of nuclear energy.

This paper aims at answering the question whether international pooling of operators' funds could open a viable avenue to complement financial security provided by insurance and thus to either fill gaps in insurance coverage or increase the amount of compensation for nuclear damage.

* The IAEA International Expert Group on Nuclear Liability (INLEX) was established by the IAEA Director General in 2003. It is an independent group of legal experts from nuclear and non-nuclear States who are appointed by the Director General *ad personam*. The group's task is to advise the Director General in nuclear liability law matters. The views expressed in this article are under the exclusive responsibility of the author.

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Part 1: The Current Legal Situation

1.1. Providing Coverage for Nuclear Liability

1.1.1. The Legal Framework

Article VII, paragraph 1, sentence 1 of the Vienna Convention on Civil Liability for Nuclear Damage (VC)¹ requires the operator of a nuclear installation “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”. There are substantially identical provisions in Article 10 of the Paris Convention (PC)² and in Article 5 of the Annex to the Convention on Supplementary Compensation (CSC).³ The provisions serve a double purpose. On the one hand, they ensure the availability of funds for compensation of nuclear damage, which is to the benefit of victims. On the other hand, they protect the operator against ruinous claims. This so-called principle of congruence between liability and coverage is one of the internationally agreed pillars of nuclear liability law.

In the light of these obvious advantages, it has for a long time been neglected that the principle implies disadvantages too. Making the congruence of liability and financial coverage mandatory may limit the discretion of lawmakers to establish liability amounts which are risk adequate. Actually, the factor which, for a long time, has been and still is considered as decisive is not the amount needed to match the nuclear risk but the availability of financial security. This is no sound starting point for a legislator. Nuclear liability limited in amount, mostly at a rather low level, has been the corollary of the congruence principle. Therefore it is not at all surprising that all of the revision exercises of the nuclear liability conventions to a very large extent were governed by the fight to increase the liability amounts, and any increase suggested needed evidence that financial coverage for the new amount was available.

1.1.2. Covering the Nuclear Risk – A Genuine Task of Insurance Industry

As a means of coverage, the conventions require insurance or other financial security. For good reasons, insurance contracts are almost the exclusive instrument for providing coverage. The insurance industry is the proper and experienced partner in providing nuclear liability coverage. However, its capacity is not unlimited, neither regarding the extent nor regarding the size of coverage. The nuclear risk is of a specific type, it differs from other risks. Certain heads of damage are, from an insurer’s point of view, not calculable, in particular damage to the environment or damage which becomes evident later than ten years after the incident. Furthermore, the potential magnitude of nuclear damage is a major challenge for the insurance industry. Claim handling expenses form an additional cost factor if a major nuclear accident with thousands of claimants occurs. National insurance companies have to pool their capacities; at international level, reinsurance is necessary. The recent revisions of the Vienna and the Paris Conventions which broaden the concept of compensable damage and at the same time establish significantly increased minimum liability amounts contribute to the difficulties. This holds particularly true since insurance against acts of international terrorism consumes considerable

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1. 1963 Vienna Convention: IAEA INFCIRC/500 or UNTS vol. 1063 p. 266; 1997 Vienna Convention: IAEA INFCIRC/566 Annex.
 2. 1960 Paris Convention on Third Party Liability in the Field of Nuclear Energy as revised 1964 and 1982, www.nea.fr/html/law/nlpari_conv.html; 1960 Paris Convention as revised 2004 [Supplement to *Nuclear Law Bulletin* No. 75 (2005/1) p. 3].
 3. 1997 Convention on Supplementary Compensation for Nuclear Damage [IAEA INFCIRC/567].

capacity worldwide. Consequently, it is not surprising that in some States insurance coverage for the new minimum liability amounts of 300 million Special Drawing Rights (SDRs) of the International Monetary Fund (IMF) and of 700 million euros (EUR) respectively and for the expanded concept of damage under the revised Vienna and Paris Conventions will possibly not be available.⁴

In the past, the insurance industry always reacted in a flexible way to meet new requirements. If additional capacity was requested, they provided it. Today for the first time, there seems to be a general reluctance to embark on covering the enlarged risk. Of course, this may be part of the bargaining game but nevertheless we have to take the concern seriously. There probably is not much leeway for a major increase in the insurance coverage. The issue will be dealt with in more detail later in this paper.

1.1.3. Other Financial Security

It follows that States and operators should turn to the second alternative for coverage offered by the Conventions, namely other financial security. Such other financial security may be provided either by public funds or by private money.

The conventions already stipulate an obligation of the Installation State to step in, up to the reference amount of the respective State, if insurance coverage is not available or is insufficient.⁵ State money can, of course, also be used to supplement the operator's reference amount, which means higher compensation for victims. There exist examples of that approach under both international⁶ and national⁷ law. In a number of States public money will be made available against a fee to be paid by the operator, which brings State intervention close to being a competitor to private insurance.⁸

Public money to cover liabilities is not the first and the most favoured option. State coverage is adverse to market economy and, in particular if granted without a fee, it may conflict with the polluter-pays principle, even if one takes into account that the Installation State, by licensing the installation, assumes responsibility for safe operation and preventing nuclear incidents. Despite these valid reasons

4. See on this issue in greater detail: Mark Tetley, "Revised Paris and Vienna Conventions – Challenges for Nuclear Insurers", in: *Nuclear Law Bulletin* No. 77 (2006/1) pp. 27 *et seq.*; Sebastiaan M. S. Reitsma, "Revised Nuclear Liability: A Challenge for Insurers", in: Norbert Pelzer (ed.), "*Bausteine eines globalen Atomrechtsregimes/Elements of a Global Nuclear Law Regime*", *Tagungsbericht der AIDN/INLA-Regionaltagung* in Goslar 2006, Baden-Baden 2007 (pp. 225 *et seq.*); Reitsma, "Nuclear Liability Conventions: Limits of Insurability", Paper presented at the OECD/NEA Nuclear Law Committee Meeting on 6-7 February 2007 in Paris. Insurance industry raised its concern already at an early stage, see: Letter of the *Comité Européen des Assurances* of 8 December 2000.

5. Article VII para. 1 VC, Article 10 para. c PC (rev.), Article 5 para. 1 CSC Annex.

6. Article 3 1963 Brussels Convention Supplementary to the Paris Convention as revised 1964, 1982, 2004 [Supplement to *Nuclear Law Bulletin* No. 75 (2005/1) p. 21]; Article III para. 1 (b) CSC.

7. In many States, there exist provisions in nuclear legislation that the Government has to step in up to the liability amount of the operator if necessary, and may increase the amount of compensation if there is nuclear damage in excess of the operator's liability. Examples for the latter case are Articles 5 and 18 of the Dutch 1979 *Wet aansprakelijkheid voor kernongevallen – WAKO* – as amended (*Staatsblad* 1979: No. 225; 1991: No. 373).

8. The Swiss Nuclear Liability Act 1983 as amended explicitly defines the State intervention for which a fee has to be paid as "insurance" [Articles 12, 14 *Kernenergiehaftpflichtgesetz*, SR 732.44].

against financial security provided by tax money, States use this option while private alternatives to insurance coverage do not play a major role, if at all.

In which way could private financial security be used to replace or complement insurance contracts or State intervention? From a theoretical point of view, there may be a number of options. The most obvious of them are bank guaranties and self-coverage. It has also been proposed to use the international capital market to raise major funds for covering the nuclear risk.⁹ In reality, none of these possibilities is being used.¹⁰ They are too expensive and in most cases not reliable enough to attain the approval by the competent authority as valid financial security to cover nuclear liability.

In the light of the recent difficulties of the insurance industry to provide sufficient capacity and in particular with a view to considerably increasing the amount of compensation available, the concept of coverage by private means other than insurance needs to be revisited and reconsidered.

1.2. Coverage of the Nuclear Risk by Private Means Other than Insurance

1.2.1. Prerequisites of Other Private Coverage

Reconsidering the coverage of the nuclear risk by private means other than insurance requires a thorough prior analysis of the reasons why this type of financial security has not, or only rarely, been used in the past.

Insurance is the specifically designed legal instrument to cover – against payment of a premium – a defined risk to which the insured person is exposed. In the case of third party liability insurance, the insurer guarantees indemnification against claims for compensation by third parties including defence against unjustified claims. This concept describes exactly what the nuclear liability conventions require under their respective articles on financial security: the liability of the operator has to be fully covered.

Obviously, what is achieved by the conclusion of a third party liability insurance contract is also the yardstick for any other type of financial security. In particular, it is required that the guarantor has sound financial standing ensuring that the guaranteed indemnification is available reliably and without delay when needed.¹¹ Here we see the first problem of other financial security. While the insurance industry is subject to a comprehensive regime of State supervision particularly designed to make sure that insurers will fulfil their legally standardised insurance contracts, there is no such control system

9. J.-R. Tyran, P. Zweifel, “Environmental Risk Internalisation through Capital Markets (ERICAM): The Case of Nuclear Power”, Paper presented at the 9th Annual Conference of the European Association of Law and Economics, London, 17-19 September 1992; Jean-Robert Tyran, “*Das Modell ERICAM: Ein Vorschlag zur Verbesserung der Kernenergiehaftpflicht durch Einbeziehung von Kapitalmärkten*”, in: Norbert Pelzer (ed.), “*Neues Atomenergierecht – Internationale und nationale Entwicklungen/New Atomic Energy Law – International and National Developments*”, *Tagungsbericht der AIDN/INLA-Regionaltagung in Landshut 1994*, Baden-Baden 1995, pp. 163 *et seq.*

10. States often use self-coverage if they act as operators. This applies e.g. to German State-owned research reactors.

11. As an example at national level: Section 3, para. 1 of the German 1977 Financial Security Ordinance as amended [*Bundesgesetzblatt 1977 I p. 220; 2005 I pp. 2365, 2405, 2976*] stipulates that other financial security must be available in full and without delay when requested.

regarding other financial security.¹² Insurers have the experience, the skills and the manpower to organise claim handling while other guarantors do not have that capacity. Of course, control and claim handling skills can be established and organised. Making other financial security conform to the standards of insurance would therefore require some expenditure in organising the conditions necessary. Here we come to the second problem of other financial security: it may be more costly than insurance.

There is no need to go into greater detail here. In summarising, it has to be kept in mind that any attempt to use private money other than insurance as financial security has to meet the requirements described above.

1.2.2. Self-coverage of Operators

As a rule, self-coverage of an individual operator is not an option to be used. Very often, the only asset of an operator is the nuclear installation itself which, in the event of a nuclear incident, will be damaged. So there are no assets to be used as coverage. If the operator is the subsidiary of a rich parent company, this company may guarantee the coverage. However from a legal point of view, this is not a case of self-coverage. Operator and parent company are distinct legal persons, and piercing the corporate veil is not an issue to be seriously discussed in the special field of nuclear law.

Self-coverage of operators can only be accepted as a realistic and viable option if we succeed in making instrumental the solidarity of all operators including their parent companies. The combined financial means of all operators ensures reliable availability of coverage. Requesting and promoting joint obligations of the operators is not arbitrary but has a legal background. The operators are the potential polluters, and they carry responsibility. They are part of a risk community. This fact provides the basis of solidarity. It is without any doubt to the benefit of all of them if they join forces to make available an amount of financial security as high as achievable. Jointly they are in a position to deploy a greater amount of coverage. High coverage of liability is supportive to public acceptance. Sharing the burden makes the obligation acceptable to each of the partners of the system.

Addressees of a system to jointly provide additional financial security are of course in the first line the operators in an individual State. But transboundary cooperation should also be considered, for two reasons: first, to increase the number of participants, thereby either decreasing the individual share to be contributed or increasing the coverage amount; and secondly, to include operators from States where only one or very few nuclear installations are situated and where national pooling would therefore not be possible or would not create any significant advantage.

At national level, there already exist examples of pooling operators' sources to increase the amount of financial security. Various efforts to make use of operators' solidarity at international level failed in the beginning of the 1990s.

12. The Conventions contain provisions that the financial security must not be used for purposes other than for the compensation of nuclear damage under the Conventions. This shall ensure availability of the coverage and shall protect against spending the money for other purposes. See Articles VII para. 3 VC; 10 para. (e) PC (rev.); 5 para. 3 Annex to CSC. The prohibition to use the coverage for other purposes entails that any disposition of the coverage for other purposes is null and void.

1.3. Existing Regimes of Operators' Pooling

1.3.1. The US. Price-Anderson Retrospective Pooling

In 1975, the US Congress amended the nuclear liability provisions of the so-called Price-Anderson Act, which is contained in Section 170 of the US Atomic Energy Act 1954, by inserting an innovative approach with a view to providing higher amounts of coverage and at the same time increasing the maximum liability of the operator. The instrument to achieve this goal was the “industry retrospective rating plan” as provided for in Section 170 subsection b of the Atomic Energy Act.¹³

According to this provision, the operator of a nuclear power plant¹⁴ – “licensee” – has to provide financial means to cover his legal liability in two layers. The first layer (“primary financial protection”) is provided for by an insurance contract up to the highest amount available at reasonable cost and on reasonable terms on the market, which is currently fixed to 300 million US Dollars (USD).¹⁵ In addition to the first layer, operators are required, as a second layer of coverage, to maintain “private liability insurance available under an industry retrospective rating plan providing for premium charges deferred in whole or major part until public liability from a nuclear incident exceeds or appears likely to exceed the level of primary financial protection”.¹⁶ The standard maximum deferred premium, which in the case of a nuclear incident causing damage in excess of the USD 300 million may be charged from each of the US operators of nuclear power stations, shall be USD 95.8 million per incident.¹⁷ Since there are 104 nuclear power plants in operation in the US, the retrospective premium system will raise an amount of USD 9.96 billion, which are in addition to the USD 300 million of the first coverage layer. The total compensation amount of USD 10.26 billion (EUR 7.71 billion) achieved by the system is most remarkable.¹⁸

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13. Atomic Energy Act 1954 as amended (Public Law 83-703, 68 Stat. 919, 42 U.S.C. 2011). The Price-Anderson Act 1957 (Public Law 85-256) added Section 170 to the Atomic Energy Act. The section was repeatedly amended. The industry retrospective rating plan was introduced by Act of 31 December 1975 (Public Law 94-197). The latest relevant amendment to the Price-Anderson Act is the Price-Anderson Amendment Act of 2005 which is contained in Chapter VI “Nuclear Matters” of the Energy Policy Act of 2005 (Public Law 109-58).
 14. The following installations (reactors) are covered: “ ... facilities designed for producing substantial amounts of electricity and having a rated capacity of 100 000 electrical kilowatts or more ...” [Section 170, Subsec.b, sentence 1 Atomic Energy Act, 140 C.F.R. 11(a)(4)].
 15. See 140 C.F.R. 11(a)(4). The primary financial protection may be provided by private insurance, private contractual indemnities, self-insurance, other proof of financial responsibility, or a combination of such measures [Section 170, Subsec. b, sentence 2, Atomic Energy Act].
 16. Section 170, Subsec. b, sentence 3, Atomic Energy Act.
 17. The premium is subject to adjustment for inflation, Section 170, Subsec. t, Atomic Energy Act. It will be called for in instalments of not more than USD 15 million per year. See also 140 C.F.R. 11 (a)(4).
 18. The amount is much higher than any of the amounts provided by Contracting Parties to the international nuclear liability conventions. It tops even the German guaranteed amount of EUR 2.5 billion (≈ USD 3.32 billion). On the other hand, German nuclear liability is not limited in amount, which adds other assets of the operator liable to the guaranteed compensation. Moreover, compensation under the nuclear liability conventions does not include legal costs (interest, costs awarded by the court, claims handling costs). Such costs have to be paid in addition to the compensation amount and must not be paid out of it. The US amount covers the public liability of the operator which includes legal costs [Section 11, Subsecs. k, w, jj, Atomic Energy Act]. However, if the claims and legal costs are in excess of the maximum amount of appr. USD 10 billion, a 5% surcharge is due, see: “Insurance Coverage for Third Party Liability and Material Damage Arising From Nuclear Incidents Caused by Terrorist Acts – Note by

The attraction of the US system is that operators are not required to pay premiums in advance.¹⁹ They are only due after the incident has occurred. This marks the difference with classical insurance where premiums have to be paid in advance and irrespective of whether an incident occurs or not. There is apparently no contractual obligation of the licensees to pay the deferred premium but the payment is made mandatory directly by the Atomic Energy Act. The act calls the industry retrospective rating plan “private liability insurance ... providing for deferred premium charges”.²⁰ However, it appears to be rather a hybrid concept consisting of elements of an insurance contract with premium payment and of elements of joint industry coverage with fixed shares to be paid.²¹ But this may be legal semantics only which do not touch upon the extreme usefulness of the system. It perfectly complements the capacity of private insurance industry in a most cost effective way.

1.3.2. The German Agreement on Operators’ Solidarity

In Germany, the concept of pooling the operators’ financial means was first discussed in the beginning of the 1970s. An increase of the financial security to be provided by the operator up to an amount of 1 billion Deutschmark (DEM) (\approx EUR 500 million) was on the agenda of the legislature. This amount should, up to DEM 500 million, be covered by private means and the other half of the amount by State money. As a result of the talks, insurers and operators agreed to cover the private tier of DEM 500 million in full by an insurance contract as follows: DEM 200 million were provided by the insurance industry while regarding the additional DEM 300 million, insurers only fronted the contract and were re-insured by the entirety of the operators of nuclear power plants according to a certain key. For that purpose, the operators founded a private law company, the *Nuklear Haftpflicht GbR*.²² The regulatory bodies accepted that arrangement, and it remained valid until 2002.²³

the OECD/NEA Secretariat”, in: *Nuclear Law Bulletin* No. 78 (2006/2), pp.19 *et seq.* (table p. 35). – Among the States with very high compensation amounts is also the Netherlands but it cannot be compared to the US and Germany. While those two States base compensation on the liability of the operator, the Netherlands provides for a combination of operator’s liability and State compensation in addition to the operator’s liability. The operator’s liability is limited to EUR 226.9 million, beyond that liability ceiling the State – against a fee – provides additional compensation up to EUR 2.27 billion (reference see footnote 7).

19. See on the system in greater detail including a discussion of its advantages and “vulnerabilities”: “Note on the US System for Retrospective Premium Pooling Under the Price-Anderson Act – Note by the US Delegation for the OECD/NEA Nuclear Law Committee meeting on 6-7 February 2007 (OECD/NEA Doc. NEA/NLC/DOC (2007) 4, 25 January 2007).
20. Section 170, Subsec. b, sentence 3, Atomic Energy Act, identical language in 140 C.F.R. 11 (a)(4).
21. The note referred to in footnote 19 on its page 2 underlines the character of the system as an insurance: “While it might appear that in this arrangement the power reactor licensees are both insurers and insured parties, they are, as a legal matter, simply the latter and the funds that they pay in are designed and designated as **deferred insurance premiums** (emphasis by the authors of the note). No one licensee assumes any obligation for the liability of another.” See also: J. Marrone, “Nuclear Liability Insurance – The Price-Anderson Reparations System and The Claims Experience of the Nuclear Industry”, *Nuclear Law Bulletin* No. 33 (June 1984), pp. 45 *et seq.* (47); John L. Quattrocchi, “The Price-Anderson Act in The New Millennium – An Insurer’s Perspective”, in: *Nuclear Inter Jura* 1999, Washington, D.C. 1999, pp. 249 *et seq.* (250).
22. See on the history: Dieter von Moock “*Probleme der Deckungsvorsorge und des Staatseintritts für die Betreiber von Kernkraftwerken*”, in: *Drittes Deutsches Atomrechts-Symposium* Göttingen 1974, Köln, etc., 1975 pp. 299 *et seq.*

When at the end of the 1990s the German Government decided to request operators of nuclear power plants to provide financial security up to an amount of DEM 5 billion and EUR 2.5 billion respectively (\approx USD 3.32 billion) industry reacted by establishing a new system of self-coverage.

In 2001, the four parent companies of the 19 German nuclear power plants concluded the so-called “Solidarity Agreement” (“*Solidarvereinbarung*”).²⁴ The Agreement aims at providing the required financial security by mutually guaranteeing the availability of the amount of EUR 2.5 billion. The Agreement consists of six sections and four annexes.²⁵

In accordance with Section 1, paragraph 1, the partners undertake to enable the operators of the nuclear power plants listed in Annex 1 to the Agreement to provide financial security as required under Sections 13, 14 of the Atomic Energy Act²⁶ up to the amount of EUR 2.5 billion. The Agreement continues using the two tier approach of the former *Nuklear Haftpflicht GbR*. That means coverage in the first tier will be provided by the insurance industry while the second tier of coverage will be provided by operators’ pooling. The insurance layer is fixed at EUR 255.6 billion (\approx USD 340 million); the operators’ money amounts to EUR 2.24 billion (\approx USD 2.98 billion). The operators’ amount will be made available for each nuclear incident irrespective of whether the insurance is made available or not [Section 1, paragraph 2 of the Agreement].²⁷

Each partner under the Agreement accepts liability vis-à-vis the other partners to contribute a certain percentage of the total amount of operators’ money, which for each nuclear power plant is based on the square root of the thermal reactor power. This sum is agreed to correspond to 100%. Based on, and corresponding to, the shares a partner holds in an individual power plant, the percentage of this plant will be attributed to the partner; the sum of all percentages forms the total size of the guarantee of that partner. Annex 2 provides a list of shares and percentages at the time of the conclusion of the Agreement [Section 1, paragraph 3 of the Agreement].²⁸

If a nuclear incident occurs for which an operator covered by the Agreement is held liable, the guarantee is due to be paid to that operator provided neither the operator nor the respective parent company are in a position to provide the money necessary for the compensation up to the amount of

23. Today, the *Nuklear Haftpflicht GbR* is only used to jointly cover costs of evacuation between EUR 0.5 and 15 million.

24. The Agreement is reproduced in: Herbert Posser, Malte Schmans, Christian Müller-Dehn, “*Atomgesetz, Kommentar Zur Novelle 2002*”, Köln, etc., 2003, pp. 342 *et seq.* Parties to the Agreement are: Energie Baden-Württemberg AG (EnBW), E.ON Energie AG, Hamburgische Electricitäts-Werke AG (now: Vattenfall Europe AG), RWE AG.

25. See on the Agreement: Malte Schmans, “*Die Deckung der Nuklearen Haftpflicht Durch Betreibermittel in Deutschland*”, in: Norbert Pelzer (ed.), *Brennpunkte des Atomenergierechts/Nuclear Law Problems in Focus, Tagungsbericht der AIDN/INLA-Regionaltagung in Wiesbaden 2002, Baden-Baden 2003*, pp. 163 *et seq.* A brief sketch of the Agreement is also contained in: Axel Vorwerk, “The 2002 Amendment to the German Atomic Energy Act Concerning the Phase-out of Nuclear Power”, in: *Nuclear Law Bulletin* No. 69 (2002/1) pp. 7 *et seq.* (14).

26. *Bundesgesetzblatt* 1985 I p. 1565, 2005 I pp. 2365, 2976.

27. As a consequence of this provision, the State intervention as provided for under Section 34 of the Atomic Energy Act (maximum amount: EUR 2.5 billion) only comes into play when the operators’ tier is exhausted, and consequently, it is limited to the insurance tier amount of EUR 255.6 million.

28. More recent figures can be taken from the company reports on the websites of the four pooling partners. The approximate percentages read as follows: E.ON: 42%, RWE: 25.9%, EnBW: 23.9%, Vattenfall: 8.2%.

EUR 2.24 billion. Inability to provide the money has to be proved by a certificate of a public accountant [Section 1, paragraphs 5 and 6 of the Agreement]. Like under the US deferred premium system, the partners are not obliged to pay any contribution in advance but only after an incident has occurred. The partners who paid their contribution gain a right of recourse against the operator; however, claims of victims for compensation have priority over those rights of recourse.

The partners furthermore undertake to support the operator liable in claims handling. In doing so, they in particular deploy infrastructure and specialised manpower. They will use their influence to achieve additional assistance from their respective group of companies [Section 2 of the Agreement].

In order to satisfy the regulatory bodies that the guarantors are reliably in a position to meet their obligations when requested, the partners have annually, and in connection with the year-end accounting of the company, to submit a certificate of a public accountant that sufficient solvent means are available [Section 3 of the Agreement]. This is the prerequisite for accepting the system as valid maintenance of financial security to be provided by the operator under Sections 13, 14 Atomic Energy Act and Article 10 Paris Convention.²⁹

1.3.3. International Efforts to Establish Operators' Pooling

During the negotiations to revise the Vienna Convention the issue of providing supplementary funding for compensation of nuclear damage in addition to the funds to be provided by the operator liable was the subject of intensive deliberations, which eventually resulted in the Convention of Supplementary Compensation for Nuclear Damage.³⁰ This convention does not use operators' money for its second tier of compensation but exclusively draws the supplementary layer of compensation from public funds.³¹ At an early stage of the negotiations, experts also discussed international pooling of operators' funds. Draft conventions establishing additional tiers of compensation consisting of collective public funds of the Contracting Parties and of operators were presented ("Levy Draft", "Pool Draft") but they did not find support and eventually failed.³²

In hindsight, there exist obvious reasons for the failure of those drafts. The drafters and promoters of the operators' pooling concept apparently underestimated and neglected the extreme complexity of making operators' money available to cover nuclear damage caused by other operators. This is already a problem at national level and even more so at regional level. But it seems to aim at the impossible if the concept is to be used in a worldwide treaty regime. It will already be a most difficult task to convince national Parliaments and national ministers of finance to use tax money to meet the obligations under the worldwide Convention of Supplementary Compensation for Nuclear Damage. But it is naïve to expect private operators to agree with the concept of using their own money for worldwide compensation of nuclear damage caused by other operators. There is no universal risk

29. There is a model certificate in Annex 4 to the Agreement.

30. Footnote 3.

31. Article III paragraph 1(b) CSC. The same applies to the other international supplementary funding convention, namely the 1963/1964/1982 Brussels Convention Supplementary to the Paris Convention, www.nea.fr/html/law/nlbrussels.html, 2004 version: *Nuclear Law Bulletin* No. 75 (2005/1) p. 21.

32. See a brief history of the negotiations with references in: "The 1997 Vienna Convention on Civil Liability for Nuclear Damage and the 1997 Convention on Supplementary Compensation for Nuclear Damage – Explanatory Texts", Vienna 2007 (IAEA International Law Series, 3), p. 63. No. 3.2. (in particular footnote 202).

community of operators. States were therefore well advised not to embark on obligations binding under international law to impose such levies on their operators.

Part 2: Establishing International Operators' Pooling

2.1. International Operators' Pooling – Purpose and Approaches

2.1.1. Purpose of, and Reasons for, Operators' Pooling

After the failure of the early 1990s attempts to establish international pooling of operators' funds, any new approach to this concept has to be based on a more realistic assessment of States' and of operators' readiness to cooperate in this field.

A first step to match reality is a prior agreement of States and entities involved about the purpose of, and the reasons for, the exercise. What shall be achieved? Operators' pooling is meant to provide financial security if and to the extent insurance coverage is not available and State intervention is regarded as being an inappropriate means to cover private liabilities because it would conflict with the polluter-pays principle and would interfere with principles of market economy. Under these circumstances, the pooling could serve two purposes. Firstly, it could be used to fill gaps in coverage due to specific exclusions from insurance coverage. Secondly, it could be used to increase the total amount of compensation beyond the capacity of the insurance industry. Using the pooling for both purposes is desirable.

At this stage, it appears to be necessary to return to the insurance industry's problems regarding the coverage of certain nuclear risks, which in general have already been outlined above.³³ The insurance industry expressed the view that it has difficulties to cover a considerable number of heads of damage under the revised Vienna Convention, the revised Paris Convention and the Convention on Supplementary Compensation for Nuclear Damage.³⁴ Sebastiaan Reitsma and Mark Tetley³⁵ in their most informative contributions elaborated on the issue and presented impressive arguments to explain the insurers' problems.³⁶ The insurance industry's main points of concern may be summarised as follows:

- costs of measures of reinstatement of impaired environment [Articles I(1)(k)(iv) VC, 1(a)(vii)(4) PC, I(f)(iv) CSC];
- loss of income deriving from an economic interest in any use or enjoyment of the environment [Articles I(k)(v) VC, I(f)(v) CSC]; ... deriving from a direct economic interest ... [Article 1(a)(vii)(5) PC];
- costs of preventive measures [Articles I(1)(k)(vi) VC, 1(a)(vii)(6) PC, I(f)(vi) CSC];
- coverage of nuclear damage caused by radioactive emissions within the permitted dose limits under normal operational conditions;

33. See Section 1.1.2.

34. See references in footnote 4.

35. Reitsma is Manager of the Swiss Nuclear Pool. Tetley is Managing Director of Nuclear Risk Insurers Limited in the United Kingdom.

36. See reference in footnote 4.

- coverage of nuclear damage caused by a nuclear incident directly due to a grave natural disaster of an exceptional character;
- coverage of nuclear damage which becomes evident more than ten years after the nuclear incident occurred; that applies to claims for compensation of personal injury the period of prescription or extinction of which extends to 30 years from the date of the nuclear incident [Articles VI(a)(i) VC, 8(a)(i) PC; the CSC does not extend the period of personal injury to 30 years, Article 9(1) Annex to CSC];
- in a number of States, there might be difficulties to cover the minimum amounts of liability of SDR 300 million under Articles V VC, II(1)(a) CSC and in particular of EUR 700 million under Article 7(a) PC;
- insurance industry finally expressed concern regarding the costs of claim handling in the case of a major nuclear accident where possibly many thousands of justified and unjustified claims have to be dealt with.

Actually, this list of “problematic risks” covers nearly all of the improvements of nuclear liability law and of victims’ protection gained by the revision exercises. That means the shortcomings in insurance coverage are dramatic. How serious the situation is will be stressed by a quotation from the conclusion of Mark Tetley’s article:³⁷

“Making an industrial “polluter” pay more money to more people is a fair objective for any government, but to impose such regime on the nuclear industry without restricting the danger posed by these obligations threatens the delicate equilibrium that has allowed insurers to support the nuclear industry throughout its development.

The financial uncertainties introduced by the new heads of cover under the revised conventions will cause a reduction in insurance cover unless a consistent approach is found to deal with the unquantifiable risks imposed upon the nuclear operators. An inconsistent approach will lead to a fragmentation of the existing legal and insurance arrangements, which in turn will compromise the original convention drafters’ objectives of legal harmonisation and an equitable and certain route to compensation for nuclear accident victims.”

That is clear language, but the conclusion drawn by the author cannot be accepted. Tetley’s conclusion clearly confirms the old school of thinking that liability means insurability. Legislators cannot agree to that view nor is it in the best interest of operators – not to mention the interest of possible victims – to be tied to the insurance industry without alternatives. For good reasons and after long difficult negotiations, States agreed on the revised conventions with a view to establishing a more risk adequate liability regime and to better protecting victims. There is no “inconsistent approach” which would warrant a change or an insurance adequate streamlining of the new liability concept only for the reason that the insurance industry is unable to cover the liability.³⁸ The only conclusion which can be drawn from the insurers’ reluctant position is to look for coverage other than insurance.

37. Page 39 of the article (footnote 4).

38. Tetley in his article identifies a number of problematic issues in the revised conventions, and in particular stresses in bold that **“almost all forms of environmental liability are currently uninsurable”** (p. 36, reference in footnote 4). That may be correct generally. But a closer look into the heads of environmental damage in the nuclear conventions show that the definitions contain qualifiers which enable judges to restrict and define an individual damage quite clearly in terms of money. This applies also to the term “unless insignificant” which the author on p. 37 explicitly marks as “also open to confusion and debate”.

In accordance with the conventions, gaps in insurance coverage have to be covered by the Installation State that has to step in to the extent that insurance or other financial security is not available or not sufficient to satisfy claims up to the reference amount.³⁹ This applies to the “problematic risks” gaps too. Hence, from a victim’s point of view, there is no need to establish international operators’ pooling. But politically it certainly would be the wrong signal if the advantages of the revised nuclear liability law could only be implemented with the help of State money. For convincing reasons, the general public would criticise that solution. Operators in their own best interest would therefore be well advised if they look for solutions to cover the insurance gaps by means of their own.

Of course, operators will probably not base their decision in favour or against pooling solely on political deliberations⁴⁰ but they will also have to ponder which solution is most cost-effective. They might opt for pooling if it is as advantageous and not more expensive but, in the best case, less expensive than other forms of available coverage.

Operators and their parent companies might have an interest in pooling with retrospective payment to avoid regular advance payment of insurance premiums or of fees for government compensation irrespective of whether a nuclear incident occurs and which, consequently, appears to be “lost money”. This holds particularly true if they, like in the case of the Netherlands,⁴¹ are obliged to pay a fee for additional State compensation although they are not any longer legally liable to compensate nuclear damage. In those cases, a deferred premium system might be an incentive to cover additional compensation by money of their own. With a view to protecting their assets, they might prefer international pooling to increase the coverage if liability under the respective national legislation is not limited in amount or is considerably higher than the coverage available from the insurance industry. Last but not least, operators might decide for pooling because of the insurers’ reluctance to cover nuclear liability in full. Pooling would ensure coverage also for risks which insurers are not prepared to cover.

Irrespective of these deliberations, perhaps the most important issue operators have to deal with relates to the question of the way in which sharing risks with other operators, especially from another country, might impair the financial standing of the operator and its parent company on the capital market. Will the shareholders agree to the concept?

As an interim summary, international operators’ pooling is an interesting option. More reliably available compensation money is to the advantage of victims. For the operator liable this option could be an attractive supplement and alternative to other forms of financial security provided pooling can be

Of course, every legal concept may be debated but there are courts to make a definite decision. However, Tetley distrusts courts as well and would prefer a definition in the convention, which, by the way, also needs (disputable) interpretation. He feels that court decisions add “a further element of uncertainty to this particular aspect of nuclear damage” (p. 37). In this context, it shall be mentioned that the US insurers in reaction to the 1980 Comprehensive Environmental Response, Compensation and Liability Act (Superfund) (CERCLA) as amended 1985, 1996 (42 U.S.C. 9601) apparently developed strategies to deal with environmental damage; see EU Doc. COM (2002) 17 final of 23 January 2002 pp. 7 *et seq.*

39. Articles VII para. 1(a) VC, 10 para. (c) PC, 5 para. 1(a) Annex to CSC. The obligation of the Installation State to step in includes claim handling costs. To the extent the State compensates victims, those costs have to be borne by the State.
40. Which role political deliberations play depends, *inter alia*, on the general political climate in the respective Installation State: Is it pro or contra the peaceful use of nuclear energy?
41. See references in footnotes 7 and 18.

organised appropriately. Higher coverage, in cases of a major nuclear incident, protects the operator and its parent company against legal or political pressure to provide additional assets for compensation in excess of the liability amount or the amount of the legally required coverage. On the other hand, there are uncertainties and stumbling stones which need attention. Perhaps a thorough investigation of the legal and economic implications, as the case may be, will make evident compelling reasons against the concept of internationally pooling operators' money. At this stage of the deliberations, this cannot entirely be excluded.

2.1.2. Mandatory or Voluntary Pooling?

The existing pooling systems at national level in the United States and in Germany have, with regard to their basic concepts, a common denominator but regarding their implementation they are governed by different approaches. The common denominator is that premiums or shares to be paid by an individual operator are only due after a nuclear incident has occurred causing damage in excess of a defined size. Retrospective payment is indeed the main and innovative advantage of the systems. The implementation follows different rules, though. While the US system is based on a statutory obligation or duty of the individual operator to contribute although it is called a "private liability insurance providing for deferred premium charges",⁴² the German system is formed by a voluntarily concluded contract under civil law among the four leading German energy producing companies, the "*Solidarvereinbarung*".⁴³ The efforts to establish international pooling as described above under Section 1.3.3. of this paper followed the US approach: the international operators' pooling should be made mandatory.

There are pros and cons for both approaches. Of course, a pooling system based on statutes provides a basis which is solid and cannot easily be done away with. Compared to that, contracts which are not explicitly stipulated by a law but are concluded voluntarily may more easily be changed or terminated. They draw their authority not in the first line from legal obligations but from political and economic usefulness for the Parties to the contract. Consequently, the US system may be deemed stronger than the German.

On the other hand, any mandatory pooling of operators' private means may, at least for some States, imply legal or even constitutional problems. Legislators that impose an obligation on operators to use their private means to cover or contribute to covering the legal liability of another operator might conflict with guaranteed property rights. One might dispute whether that approach could be called mandatory liability insurance to the mutual benefit of all operators. It seems rather to be a specialised levy or a specialised tax which needs reasons to be justified. The concept of risk community was already mentioned as a possibly pertinent reason, but how far reaching is the validity of this concept? Does a risk community exist among operators of different States with different legal regimes? There are questions to be answered, and the answers to these questions depend on the legal system of the respective State and, consequently, may differ.⁴⁴ As a modern example of transnational

42. Reference in footnote 20.

43. Reference in footnote 24.

44. Under German law, the "classical" risk community is established under Section 830, para. 1, sentence 2 of the *Bürgerliches Gesetzbuch* (Civil Code): If several persons are involved in committing a tort and the individual tortfeasor cannot be identified, all of the persons involved are held liable. What is regulated in this provision defines, however, a situation totally different from operators' pooling. In the case of operators' pooling the tortfeasor is well known, which makes it more difficult to require "participation" in the financial consequences of the liability of others.

mandatory risk pooling, the bank deposit guarantee schemes under the EU law may be referred to.⁴⁵ Although the underlying idea of bank deposit guarantee schemes, in its basic concept, is fairly similar if not identical to operators' pooling in the nuclear field, the EU Directives on harmonizing national schemes cannot be used as an example for mandatory transboundary pooling outside the special EU regime.

It follows that one should refrain from trying to draft and implement mandatory operators' pooling instruments at international level. The failure of the early 1990s efforts to establish a mandatory treaty regime teaches lessons which most probably are valid still today. International operators' pooling should entirely be left to the discretion of operators and their respective parent companies. It is up to them to decide if and to which extent and under which conditions they are prepared to embark on international pooling of financial means to cover nuclear liability. This decision is not a business of States. It is mainly a responsibility of the individual companies vis-à-vis their shareholders. This conclusion does not, however, exclude State measures designed to support respective efforts of operators if States deem them useful.

2.2. *Implementing International Pooling*

2.2.1. *Background Conditions*

Effective and reliable coverage of nuclear liability by a system of international operators' pooling can only be achieved if the political, legal and economic background in all States whose operators wish to participate in the system is comparable and at equal level. Pooling is based on trust and confidence. If operators "invest" money in the nuclear risk of another operator they want to remain on familiar ground. Since important amounts of money are involved they cannot afford to explore unknown territory. A minimum condition is that all States involved are democracies operating under the rule of law and with a free market economy. Pooling is easier to agree upon if it takes place among operators of like-minded States that preferably cooperate already in other fields. States that are Contracting Parties to an organisation of regional integration or other nature provide a good basis for operators' pooling. This applies particularly to EU member States. Limitation of the system to a certain geographical region makes pooling more reasonable because only in a geographically limited area a natural transboundary risk community may exist.

Among the background conditions there is, of course, the requirement of equal nuclear liability legislation in all participating States. States should be Party to one and the same nuclear liability convention. If they are Party to different conventions, the conventions need to be linked by either the 1988 Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention⁴⁶ or by the Convention on Supplementary Compensation.⁴⁷ Nevertheless, in any case it is advisable to also have a closer look into the national implementation of the conventions with a view to identifying early on possible difficulties in applying the law to an individual case. Operators participating in international pooling should have a clear picture of the nuclear liability law which will be applied to nuclear incidents occurring in installations of their pooling partners. This includes assurance that the

45. Directive 94/19/EC of the European Parliament and the Council on deposit-guarantee schemes of 30 May 1994 (Official Journal No. L 135 of 31 May 1994, p.1) as amended by Directive 2005/1/EC of 9 March 2005 (Official Journal No. L 79 of 24 March 2005, p. 9).

46. IAEA Doc. INFCIRC/402.

47. Reference in footnote 3. The CSC would enable so-called Annex States that are not Party to any of the conventions to co-operate too.

Installation States will accept pooled operators' means as valid financial security to cover the respective operator's nuclear liability. Participation in the nuclear liability conventions also ensures free transferability of the shares or premiums provided by the pooling partners.⁴⁸ If the pooling partners agree on a right of recourse regarding their shares or premiums against the operator liable, it has to be ensured that such rights are enforceable in the operator's State.

2.2.2. Equal or Comparable Levels of Nuclear Safety and Security

Among the first questions an operator interested in pooling will ask are questions relating to the level of nuclear safety and security of the nuclear installations with which the risk will be shared. Operators will only be prepared to pool if the safety and security standards of other installations are up to the standards of their own installations.

There has to be an adequate legal framework in all States whose operators wish to cooperate. This requires participation in the major international instruments on nuclear safety and security, such as the 1994 Convention on Nuclear Safety,⁴⁹ the 1997 Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management,⁵⁰ the 1980 Convention on Physical Protection of Nuclear Material as amended 2005,⁵¹ and the other members of the so-called family of Nuclear Safety Conventions.⁵² Radiation protection has to be in compliance with the recognised international standards.⁵³ Needless to say that there also must be in place a sound non-proliferation regime based on the 1968 Non-Proliferation Treaty⁵⁴ and implementing cooperation with the IAEA.⁵⁵

Attention has to be given to the national implementation of the international instruments and practices. Operators should try and get familiar with the way in which the regulatory bodies exercise their functions. It is of outstanding importance that operators are granted access to the installations which will participate in the pooling in order to enable the partners to decide on the eligibility of an installation on the ground of knowledge and assessment of their own. Such initial safety appraisals should be continued as permanent safety peer reviews among partners of the pooling which, as a welcome side effect, would contribute to enhancing nuclear safety in general.

48. Articles XV VC, 12 PC. In the Convention on Supplementary Compensation, there is a provision on free transfer only with regard to the international funds under Article III.1(b) [Article VII.2]. Article 8, para. 2 of the Annex to the CSC stipulates the transferability of compensation but not the transferability of coverage amounts. So there may be doubts as to whether this provision fully corresponds to the respective provisions of the VC and the PC.

49. IAEA Doc. INFCIRC/449.

50. IAEA Doc. INFCIRC/546.

51. IAEA Doc. INFCIRC/274/Rev.1, IAEA Doc. GOV/INF/2005/10-GC(49)/INF/6.

52. The family also includes the 1986 Conventions on Early Notification and on Assistance [IAEA Docs. INFCIRC/335 and 336].

53. As e.g. IAEA International Basic Safety Standards for Protection against Ionising Radiation and for the Safety of Radioactive Sources, 1996 (IAEA Safety Series 115).

54. IAEA Doc. INFCIRC/140.

55. That means *in concreto* that bilateral agreements have to be concluded with the IAEA based on e.g. IAEA Docs. INFCIRC/153 (corrected), INFCIRC/540 (corrected), and other relevant documents.

2.2.3. Equal or Comparable Economic Conditions and Legal Framework

It has already been stated that a free market economy is a basic condition for operators' pooling. Operators in States with a State planned economy will most probably not enjoy the trust to be accepted as partners.

Equally important is the comparability of trade and company law and in particular of tax law. Pooling aims at providing a very considerable amount of money as coverage, otherwise pooling does not make much sense. Depending on the number of participating operators and on the total amount of money to be made available, the individual share or premium to be paid by the individual company may be fairly high.⁵⁶ The obligation to pay the share or premium will be identified as a debt in the balance sheet of the company. Hence, it has an impact on the company's rating and may influence its share price and its creditworthiness. This is difficult to explain to the shareholders, may put the company at a disadvantage in competition, may hamper its business flexibility, in short, it implies a number of economic drawbacks. Operators will have to consider whether the advantages of higher and probably more cost-effective financial security to cover the nuclear risk will outweigh the drawbacks possibly linked to the system. The situation might be improved or balanced by favourable national tax legislation provided States acknowledge the purpose of operators' pooling as a useful means to enhance compensation of victims of a nuclear incident. In that case, also additional legislative or other State support is conceivable.

In order to minimise the described problems and to prevent discrimination against operators that join a pooling regime, Installation States should ensure harmonised economic and legal conditions. That requires arrangements among the concerned States.

In this context, the EU could possibly play a supportive role regarding pooling among EU operators. Of course, the Community, in particular Euratom, does not have general and comprehensive competence in the field of nuclear liability law with the exception of jurisdiction.⁵⁷ But Article 98 of the Treaty establishing the European Atomic Energy Community,⁵⁸ for a very limited field, gives Euratom a competence which might be used here: "*Member States shall take measures necessary to facilitate the conclusion of insurance contracts covering nuclear risks.*" The Council is authorised to issue directives for the application of Article 98. This competence has never been used

56. As a reminder: the individual amount to be paid under the US system is USD 95.8 million per nuclear power plant and per incident. Under the German system, the partners of the Solidarity Agreement undertook to provide the total amount of EUR 2 244.355 million in the following shares (at the date of the Agreement): EnBW EUR 507.830 million, E.ON EUR 911.140 million, Vattenfall EUR 175.913 million, RWE EUR 649.472 million [Annex 2 to the Agreement, see footnote 24]. In addition, each partner pays 5% of its portion for claim handling costs. In order to make the German figures more comparable to the US figures: The total German amount including 5% claim handling costs would correspond to an average amount of EUR 124.03 million (\approx USD 164.96 million) per nuclear power plant and per incident.

57. See: Council Regulation (EC) No. 44/2001 of 22 December 2000 on the Jurisdiction and Recognition of Enforcement of Judgments in Civil and Commercial Matters (Official Journal No. L 12 of 16 January 2001 p. 1); Council Decision of 8 March 2004 authorising the Member States which are Contracting Parties to the Paris Convention of 29 July 1960 on Third Party Liability in the Field of Nuclear Energy to ratify, in the interest of the European Community, the Protocol amending that Convention, or to accede to it [2004/294/EC] (Official Journal No. L 97 of 1 April 2004 p.53).

58. Consolidated version of the Treaty in: <http://eur-lex.europa.eu/en/treaties/dat/12006A/12006A.html>.

but for two less important recommendations of 1965 and 1966.⁵⁹ Perhaps the concept of operators' pooling could invite to revisit Article 98. Although the text of the provision refers to "insurance contracts" only and does not mention other financial security, a teleological interpretation entails complementing Article 98 by including the concept of other means of coverage.⁶⁰ It follows that there is Community competence in the field of facilitating the coverage of nuclear liability. This interpretation would give the Community authority to issue measures to support operators' pooling within the EU Member States. For the reasons developed above under Section 2.1.2., such measures should by no means make pooling binding upon operators. But they could guide member States on how to support and facilitate operators' pooling by harmonised national actions.

2.2.4. *Limitation of Pooling Partners to Operators of Nuclear Power Plants?*

The existing operators' pooling systems in the US and Germany restrict participation to the operators of nuclear power plants. Operators of other nuclear installations as listed in the articles on definitions in the Conventions⁶¹ are not covered by the system. As a matter of fact, those other operators also suffer from the insurance coverage's *lacunae*. Would it not be reasonable to include them in the system?

The answer is, in principle, yes. But including them would create a number of complex new problems. First of all, the risks involved in other installations are not necessarily the same as the risks of a nuclear power plant. The 1994 Convention on Nuclear Safety is only applicable to land-based civil nuclear power plants.⁶² The Joint Convention regulates the safe management of spent fuel and of radioactive waste during all stages.⁶³ Regarding all of the other nuclear installations there is no comprehensive binding international instrument on safety, there is only soft law if any.⁶⁴ This legal situation makes it most difficult for operators to assess the safety of possible partner installations.

What probably will be equally problematic is the fact that the operators of the variety of other installations may have different business concepts and may be owned by shareholders other than those of nuclear power plants. That may entail that they are subject to legal provisions other than those applicable to energy producing companies.

In short, with regard to the problems which are relevant here, other nuclear installations do not have very much in common with nuclear power plants. Pooling among each other may be possible, in particular at national level, but it appears to be more difficult to achieve. International pooling may

59. Official Journal 1965 p. 2995; 1966 p. 2553. The Recommendations of the Commission of 28 October 1965 and 6 July 1966 respectively relate to harmonising the implementation of the Paris and Brussels Conventions in the Member States.

60. The provision was drafted prior to the Paris Convention in 1957. At that time a clear picture of how to cover the nuclear risk was not yet available.

61. Articles I para. 1(j) VC, 1 para. (a)(ii) PC, 1 para.1(b) Annex to CSC.

62. Articles 3, 2 (i) Nuclear Safety Convention (footnote 49).

63. Article 1 Joint Convention (footnote 50).

64. As it applies e.g. to research reactors, see: Code of Conduct on the Safety of Research Reactors, adopted by the IAEA Board of Governors on 8 March 2004 [Annex to IAEA Doc. GC(48)7, 19 July 2004].

perhaps be easier to be agreed upon if there is a transnational company link between the respective installations.⁶⁵ Globalisation is international pooling's ally.

2.2.5. *International Operators' Pooling and Insurance Industry*

If operators' pooling is widely accepted and successful, there might emerge the risk that it drives the insurance industry out of this particular business. This, of course, should not happen. It will not happen if the challenge of competition will produce unexpected capacity on the part of the insurers. Moreover, as has been said above,⁶⁶ indemnification against legal risks is a genuine task of insurance industry for which it is designed. It is not an evident task of the operators of nuclear power plants. They only should step in if other solutions are not available or are inadequate.

The two-layer approach established by the German and the US pooling systems therefore is a prudent solution. The insurance industry covers the risk – as a first layer – up to an amount which can be provided by insurers and which is offered at a price acceptable for the operators. Beyond this limit and with regard to risks which insurers exclude from covering, the solidarity of operators comes into play as a second layer of coverage. As an overall umbrella there is State intervention to step in where needed.⁶⁷

The two-layer approach entails a major problem for the insurer. In the event of a nuclear incident, victims and those who allege they are victims will, as the case may be, very quickly make their claims. They will put in their claims either against the operator or, if there is direct action under the respective legislation,⁶⁸ against the insurer. That means all claims will first be collected by the insurer. Since at that stage it will be most difficult, if not impossible, to predict whether the amount of insurance coverage will suffice to satisfy all claims made, the second layer of coverage will not yet come into play. It follows that the insurer has to deal with all of the claims whether they are justified or unjustified. That is a costly procedure, and only at a later stage will it become evident whether and which portions of the claims handling costs have to be borne by the operators who cover the second layer of financial security.

In order to exclude this consequence of the two-layer system the insurer and the pooling operators should agree in advance on how to organise claims handling and the transition from the first to the second layer of coverage. As far as there is additional State intervention, the State should be involved in that arrangement.

It follows that there are fields of cooperation among insurance industry and operators. Perhaps the original concept of the German *Nuklearhaftpflicht GbR*⁶⁹ could be revitalised and used here: the second layer of coverage is also covered by an insurance contract which is reinsured by the operators.

65. This may be the case if companies are owners or co-owners of installations in other countries, such as EDF and Vattenfall which hold shares of German nuclear power plants. The international company Urenco may also be an example.

66. Section 1.1.2.

67. See Section 34 of the German Atomic Energy Act (footnote 26).

68. For example in France: Article 14 *Loi* 68-943 du 30 octobre 1968 as amended by *Loi*-90-488 du 16 juin 1990 and by *Loi* 2006-686 du 13 juin 2006 (Official Journal of 31 October 1968, No. 139 du 17 juin 1990, No. 136 du 14 juin 2006).

69. See above Section 1.3.2.

Such approach might combine the advantages of both insurance coverage and operators' pooling. Innovative thinking is requested.

Conclusions

The operators' pooling systems established in Germany and in the US prove their capacity to deploy many times the amounts required under the revised nuclear liability conventions and in particular the amounts offered by the insurance industry. The money will be provided to cover the legal liability of the operator liable without excluding certain risks from coverage. Defined mechanisms supervised by the Installation State ensure that the coverage is reliably available when compensation of victims of a nuclear incident is due. Premiums or shares of the participating operators shall only be paid after a nuclear incident has occurred and in case the money is needed for compensation. No advance payment of premiums and no payment of premiums irrespective of whether an incident happens or not is requested.

This summary lists considerable advantages of operators' pooling. It is of overriding importance that the system is apt to widen the straightjacket which is formed by the congruence principle with its mutual interdependence of insurance cover and liability amount and which was and still is tailored to match the limitations of insurance capacity. Operators' pooling will not release from this *circulus vitiosus* but it opens new dimensions for significantly higher amounts of compensation without excluding certain risks from coverage. Legislators could request higher liability or coverage ceilings. As a side effect, compensation by State intervention can be reduced.

But there are drawbacks too. In order to raise high amounts one needs either a great number of pooling partners who will be charged relatively low contributions or a small number of partners who dispose of considerable liquid assets to contribute. These prerequisites are not met in all States with nuclear programmes. The situation obviously calls for international pooling which should aim at including not only operators but also their parent companies.

Here we face new problems. The experience of the German and the US systems is limited to national pooling among operators of nuclear power plants. There is no experience of international pooling to build upon. As has been pointed out in this paper, pooling private financial means, particularly transboundary pooling, is a most sensitive matter. Many factors have to be considered, and conflicting interests have to be mitigated. The support of Installation States will be needed to establish and guarantee a background which is favourable for international pooling. States should encourage operators but should not interfere actively. They should act in compliance with the principle of subsidiarity.

The current difficulties of the insurance industry to cover certain nuclear risks offer a chance to break new ground in providing financial security. The still-pending ratification and entry into force of the improved international nuclear liability regime creates some time pressure. All stakeholders are responsible for making those enhancements effective in a timely fashion. Operators' pooling is a means to speed up the process. The time is ripe to explore the option more closely.

CASE LAW AND ADMINISTRATIVE DECISIONS

CASE LAW

Germany

Judgement of the Federal Administrative Court on the Konrad Repository Project (2007)

In a judgement handed down on 3 April 2007, the German Federal Administrative Court ruled that the former iron ore mine Konrad can become the country's first disposal facility for low and medium-level radioactive waste.

The plan to convert the Konrad site in Lower Saxony was first approved by the State Environment Ministry in 2002 after almost 20 years of proceedings. Local communities and farmers appealed the licensing decision. These lawsuits were dismissed in March 2006, without leave for further appeal (see *Nuclear Law Bulletin* No. 77), but subsequent appeals were made against the denial of leave to appeal. These were finally dismissed on 3 April 2007, exhausting the legal process and rendering the site licence to convert the Konrad mine into a final repository incontestable.

At the time of publication of this *Bulletin*, the text of this Court ruling was not yet available. More detailed comment will be provided in the next edition of the *Nuclear Law Bulletin* (No. 80; December 2007).

ADMINISTRATIVE DECISIONS

Sweden

*Environmental Court Decision on Initial Measures for the Dismantling of Barsebäck (2006)**

On 12 July 2006, the first instance environmental Court of Växjö decided on the initial measures for the dismantling of the two 600 MW boiling water reactors located at Barsebäck. The first reactor at Barsebäck was shut down in November 1999 through a political decision by the Government. The decision was made pursuant to the 1997 Act on the Phasing-out of Nuclear Power (see *Nuclear Law Bulletin* No. 61). Barsebäck-2 was shut down on 31 May 2005, again pursuant to the 1997 Act (see *Nuclear Law Bulletin* No. 75).

* This commentary is in the nature of a corrigendum to the short summary published in *Nuclear Law Bulletin* No. 78 and was kindly provided by Mr. Tomas Israelsson, Senior Legal Adviser at the Swedish Nuclear Power Inspectorate.

In Sweden, all nuclear activities require permits pursuant to both the 1984 Act on Nuclear Activities (see in particular *Nuclear Law Bulletin* Nos. 33, 39, 56 and 63) and the 1999 Environmental Code (see *Nuclear Law Bulletin* No. 63). While the former focuses essentially on nuclear safety issues, the Environmental Code takes a broader view on the overall environmental impact of a certain activity. Pursuant to the Environmental Code, dismantling of a nuclear power plant requires a separate licence. Applications for such licences pursuant to the Code are heard by the Environmental Court.

In this context, it could be of interest to point out that pursuant to the Nuclear Activities Act – for which the Swedish Nuclear Power Inspectorate (SKI) is the regulatory and supervisory authority – there is no need for a separate licence in order to dismantle a nuclear power plant. On the contrary, the owner of a nuclear installation is obliged to dismantle the plant after shutdown. Dismantling is to be done in a safe manner according to the Best Available Technology (BAT) and under the surveillance of the SKI.

In this particular case, the Environmental Code held an open session in which all major involved organisations and institutions were heard. Amongst them were the Swedish Nuclear Power Inspectorate (SKI) and the Swedish Radiation Protective Institute (SSI) – both authorities under the Swedish Government. In the application, Barsebäck Kraft AB, the company that holds the operating licence for the reactors, had not applied for a licence to commence actual dismantling of the plants – but rather had applied only for initial measures. Barsebäck Kraft AB did not wish to commence dismantling until at earliest 2020. SSI, however, together with the municipality of Kävlinge where Barsebäck is located, wanted decommissioning to commence prior to that. Barsebäck Kraft AB, considering that early decommissioning would require a new facility for interim storage of waste products and thus cause a major interruption in the national Programme for Spent Fuel and Radioactive Waste Management, disagreed.

The Environmental Court decided to grant Barsebäck Kraft AB a licence for initial measures for the dismantling until the end of 2012. Before that date, Barsebäck Kraft AB will be required to apply again for a new licence. In the meantime, the Court expects the company to present more analysis and material regarding the possibility or consequences of early dismantling.

NATIONAL LEGISLATIVE AND REGULATORY ACTIVITIES

Argentina

Regime of radioactive materials

Amendment to the Criminal Code (2004)

On 4 May 2004, a new Section 189 bis was added to the Criminal Code. The text (unofficial translation), as published in the Official Gazette of 5 May 2004, reads as follows:

“Those who, with the purpose of committing a crime against the common security, cause damage to machines or in the elaboration of products, buy, supply, steal or have bombs, devices or materials capable of releasing nuclear energy, radioactive material or waste, radioactive isotopes, inflammable, asphyxiating, toxic or biologically dangerous materials or materials to prepare them, will be subject to a penalty of five to fifteen years imprisonment...”

Australia

Organisation and structure

*Australian Nuclear Science and Technology Organisation (ANSTO) Amendment Act (2006)*¹

This purpose of this Amendment Act, No. 145 of 2006, is to modify the Australian Nuclear Science and Technology Organisation Act 1987 (see in particular *Nuclear Law Bulletin* Nos. 40, 54 and 63) to allow ANSTO to condition, manage and store radioactive material and waste other than that which may arise directly from ANSTO activities.

The Explanatory Memorandum for this legislation² explains that as the pre-eminent expert body on radioactive materials and waste technology in Australia, with the facilities and trained personnel for managing radioactive material and waste, it is the Government’s intention that ANSTO be able to fully participate in the management of radioactive material and waste in the possession or under the control of any Commonwealth entity.

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1. The text of this act is available at:
[www.comlaw.gov.au/ComLaw/Legislation/Act1.nsf/0/FCDF7592693F7E73CA25723E0016C850/\\$file/1452006.pdf](http://www.comlaw.gov.au/ComLaw/Legislation/Act1.nsf/0/FCDF7592693F7E73CA25723E0016C850/$file/1452006.pdf).
 2. Available at:
[www.comlaw.gov.au/ComLaw/Legislation/Bills1.nsf/0/69292790960BF6EFCA25714800285B07/\\$file/06019em.pdf](http://www.comlaw.gov.au/ComLaw/Legislation/Bills1.nsf/0/69292790960BF6EFCA25714800285B07/$file/06019em.pdf)

This amendment also ensures that ANSTO is able to provide effective assistance to State and Territory jurisdictions, if asked, in ensuring public health and safety in the event of an incident, including a terrorism or criminal incident, involving radiological material. Authority to accept and manage radioactive material arising from a terrorist incident is considered to be an important component of Australia's counter-terrorism response.

Thirdly, spent nuclear fuel from ANSTO's reactors is sent overseas under contractual arrangements for reprocessing to convert it into an intermediate level waste form suitable for long-term storage and eventual disposal in Australia. Australian spent fuel may be combined with spent nuclear fuel from many sources and processed in bulk. Accordingly, this Amendment Act clarifies ANSTO's authority to condition, manage and store the material returned to Australia as a result of the contractual arrangements entered into for this purpose.

Radioactive waste management

*Commonwealth Radioactive Waste Management Legislation Amendment Act (2006)*³

The purpose of this Amendment Act (No. 161 of 2006) is to modify the Commonwealth Radioactive Waste Management Act 2005 (see *Nuclear Law Bulletin* No. 77) to provide for the return of nominated Aboriginal land – should such land be selected for a radioactive waste facility – when no longer required for the facility.

The Explanatory Memorandum⁴ for this bill explains that the land return may not occur until the land is no longer required for the facility. The land would be returned to the land trust(s) from whom it was acquired, or the land trust(s) that succeeded the original land trust(s). Following the land return, the land trust(s) may be indemnified against damages arising from the use of the land for a facility.

Finland

Radiation protection (including nuclear emergency planning)

*Amendments to the Radiation Act and Radiation Decree (2005)*⁵

The 1991 Radiation Act (see *Nuclear Law Bulletin* No. 47) was amended by Law No. 1179 of 22 December 2005 and the 1991 Radiation Decree was amended by Ordinance No. 1264 of 29 December 2005 of the Council of State. Both of these amendments involve the insertion of a new chapter on high-activity sealed radioactive sources in implementation of Council Directive 2003/122/Euratom of 22 December 2003 on the Control of High-activity Sealed Radioactive Sources and Orphan Sources (see *Nuclear Law Bulletin* Nos. 72 and 73).

3. The text of this act is available at:
[www.comlaw.gov.au/ComLaw/Legislation/Act1.nsf/0/9CF2FE4F01B21F34CA25724400018357/\\$file/1612006.pdf](http://www.comlaw.gov.au/ComLaw/Legislation/Act1.nsf/0/9CF2FE4F01B21F34CA25724400018357/$file/1612006.pdf).

4. Available at:
[www.comlaw.gov.au/ComLaw/Legislation/Bills1.nsf/0/B26D58F2EDC8B021CA25721A001B3271/\\$file/06165em.pdf](http://www.comlaw.gov.au/ComLaw/Legislation/Bills1.nsf/0/B26D58F2EDC8B021CA25721A001B3271/$file/06165em.pdf).

5. Unofficial translations of these texts including the 2005 Amendments are available at:
www.stuk.fi/saannosto/19910592e.pdf and www.stuk.fi/saannosto/19911512e.pdf respectively.

France

Regime of nuclear installations

Decree on Securing Financing for Nuclear Charges (2007)

This Decree No. 2007-243 of 23 February 2007 was adopted in implementation of Article 20 of the Planning Act of 28 June 2006 Concerning the Sustainable Management of Radioactive Materials and Waste (see *Nuclear Law Bulletin* No. 77).

This article imposes the following obligations upon operators of basic nuclear installations (*installations nucléaires de base – INB*):

- to assess conservatively any charges relating to the dismantling of their facilities or, in the case of radioactive waste disposal facilities, any charges relating to their final shut-down, maintenance and monitoring;
- to assess all charges relating to the management of their spent nuclear fuel and radioactive waste;
- to constitute the provisions associated with the above-mentioned charges;
- to account separately for any assets required to demonstrate a sufficient level of security and liquidity in order to fulfill their purpose.

Article 20 of the act only applies to basic nuclear installations. However, the Decree of 23 February extends the obligations pursuant to this law to operators of individual installations within basic nuclear installations classified as secret (i.e. installations which bear the characteristics of a basic nuclear installation).

The decree specifies the different categories of charges envisaged by Article 20. It describes the method of evaluating these charges and provides a list of assets which are admissible for the purposes of constituting provisions. It establishes a system of management and control over the funds constituted by the operators. Finally, it sets out means for State control over the funds.

Decree Licensing the Construction of the Basic Nuclear Installation “Flamanville 3” Comprising an EPR Reactor (2007)⁶

This Decree No. 2007-534 of 10 April 2007 licensing the construction of the third-generation EPR reactor on the Flamanville site, scheduled to commence operations in 2012, was published in the Official Journal on 11 April 2007.

Article 1 of the decree provides that *Électricité de France* (EDF) is authorised to construct a basic nuclear installation comprising a pressurised water reactor with a thermal power of 4 500 MW on the territory of the commune of Flamanville, in the department of la Manche, for the purpose of electricity production.

6. The text of this decree is available in French on the internet site Legifrance at the following URL: www.legifrance.gouv.fr/WAspad/Ajour?nor=INDI0700460D&num=2007-534&ind=1&laPage=1&demande=ajour.

Article 4 of the decree specifies that the Nuclear Safety Authority (*Autorité de sûreté nucléaire*) should be informed of any modifications to the installation and of any conditions of operation pursuant to the terms and conditions set out in the Act of 13 June 2006 on Nuclear Transparency and Safety (see *Nuclear Law Bulletin* No. 77) and its implementing regulatory texts.

Germany

Radiation protection (including nuclear emergency planning)

Amendment to the Act on Preventive Radiation Protection (2006)

The 1986 Act on Preventive Protection of the Public against Radiation (see *Nuclear Law Bulletin* No. 39) as last amended in 2003 (*Bundesgesetzblatt* 2003 I p. 2304, 2308) was further amended by Article 64 of the Ninth Ordinance to Adjust Competences of 31 October 2006 (*Bundesgesetzblatt* 2006 I p. 2407). The amendment results from the renaming of Federal Ministries.

Administrative Provisions on the Supervision of Environmental Radioactivity (2006)

On 13 December 2006, the Federal Government, with the consent of the *Bundesrat* (Federal Council; Second Chamber of Parliament) issued General Administrative Provisions on an Integrated Measuring and Information System on the Supervision of Radioactivity in the Environment (*Integriertes Mess- und Informationssystem zur Überwachung der Radioaktivität in der Umwelt – IMIS*) (*Bundesanzeiger* 2006 p. 7418 and No. 244a/2006). The System is designed to ascertain, transmit, process, provide and document data in accordance with Sections 2 to 4 of the 1986 Act on Preventive Radiation Protection as last amended in 2006 (*Bundesgesetzblatt* 2006 I p. 2407).

Ordinance on Radioactive Drugs (2007)

The 1987 Ordinance on Radioactive Drugs (see *Nuclear Law Bulletin* No. 39) was published in a consolidated version on 19 January 2007 (*Bundesgesetzblatt* 2007 I p. 48). The new version includes minor amendments from 1990 to 2005 and in particular a substantive amendment by the ordinance to amend the Ordinance on Radioactive Drugs and on Drugs Treated with Ionising Radiation of 22 December 2006 (*Bundesgesetzblatt* 2006 I p. 3462) which entered into force on 31 December 2006.

The amendments stipulate a number of exceptions from the general prohibition under the 1976 Act on Drugs as amended (*Bundesgesetzblatt* 2005 I p. 3394) to trade with certain defined drugs. The ordinance furthermore contains new provisions on labeling and relevant information [Section 3]. It takes into account Directive 98/34/EC of the European Parliament as amended by Directive 98/48/EC of 20 July 1998 on Information Procedures in the Field of Technical Norms.

Food irradiation

Amendment to the Ordinance on the Treatment of Foodstuffs with Radiation (2006)

The Foodstuffs Irradiation Ordinance of 14 December 2000 (see *Nuclear Law Bulletin* No. 67) as amended by Article 312 of the Ordinance of 29 October 2001 (*Bundesgesetzblatt* 2001 I p. 2785) was further amended by the Ordinance on Amending Provisions on Foodstuffs and Tobacco of

22 February 2006 (*Bundesgesetzblatt* 2006 I p. 444). Article 4 of the ordinance adjusts Sections 3 and 8 of the Food Irradiation Ordinance to amendments of other laws including a slight change of the penal provisions.

Transport of radioactive materials

European Agreement Relating to the International Transportation of Dangerous Goods by Road (ADR) (2006)

Based on the 18th Ordinance of 8 September 2006 to amend Annexes A and B of the ADR Agreement (*Bundesgesetzblatt* 2006 II p. 826), the said Annexes in their versions of 20 September 2005 (*Bundesgesetzblatt* 2005 II p. 1128, 2006 II p. 245 and Annex to *Bundesgesetzblatt* 2006 II No. 24) were published together with a German translation and entered into force on 1 January 2007 (see *Nuclear Law Bulletin* No. 77).

Ordinance on the Transportation of Dangerous Goods by Road and Rail (2006)

The 2005 Ordinance on the Transportation of Dangerous Goods by Road and Rail as last amended by Ordinance of 31 October 2006 (*Bundesgesetzblatt* 2006 I p. 2407) (see *Nuclear Law Bulletin* No. 77) was amended by the 3rd Ordinance of 24 November 2006 (*Bundesgesetzblatt* 2006 I p. 2678). The ordinance implements Directive 2006/89/EC of the Commission of 3 November 2006 and Directive 2006/90/EC of the Commission of 3 November 2006. Based on Article 2 of the ordinance, a consolidated version of the Ordinance on the Transportation of Dangerous Goods by Road and Rail was published on 24 November 2006 in *Bundesgesetzblatt* 2006 I p. 2683 and entered into force on 1 January 2007.

Ordinance to Amend the RID Regulations (2006)

By the 13th Ordinance to amend the International Order on the Carriage of Dangerous Goods by Rail (RID) (see *Nuclear Law Bulletin* No. 77), the 2005 version of the RID – Annex C to the COTIF-Agreement – was put into force as of 1 January 2007 (*Bundesgesetzblatt* 2006 II p. 953).

Ordinance on the Transportation of Dangerous Goods on the Rhine and Mosel Rivers (2006)

The Seventh Ordinance of 6 December 2006 to amend the Ordinance on the Transportation of Dangerous Goods on the Rhine River (ADNR) and to amend the Ordinance on the Transportation of Dangerous Goods on the Mosel River was published in *Bundesgesetzblatt* 2006 II p. 1378; the amendments are published in an annex volume to *BGBI.* 2006 II No. 33. The amendments implement the Decisions of the Central Commission on the Navigation on the Rhine River of 31 May 2006 and of the Mosel Commission of 6 December 2006, which replace the versions of 2001 and 2002 (see *Nuclear Law Bulletin* No. 73; see also *Bundesgesetzblatt* 2006 II p. 26).

Regulations on nuclear trade (including non-proliferation)

Amendments to the 1961 Foreign Trade Act and to the 1993 Foreign Trade Ordinance (2006)

The 1961 Foreign Trade Act as amended (see *Nuclear Law Bulletin* No. 77) on 26 June 2006 was published in a consolidated version in *Bundesgesetzblatt* 2006 I p. 1386.

The 76th, 77th and the 78th Ordinances to amend the Foreign Trade Ordinance implement a number of EC Regulations, such as Regulations (EC) 1236/2005 of 27 June 2005, 1685/2006 of 14 November 2006 and 1823/2006 of 12 December 2006. The amendments mainly deal with trade restrictions regarding Lebanon and North Korea and goods which may be used for torture or the death penalty.

A new version of the Import List – Annex to the Foreign Trade Act – as last amended by the Ordinance of 6 April 2006 (*Bundesanzeiger* 2006 p. 2647, see also NLB 77 p. 56) was published in the 154th Ordinance to Amend the Import List – Annex to the Foreign Trade Act – of 18 December 2006 (*Bundesanzeiger* 2006 p. 7462 and No. 245a/2006).

A new version of the Export List – Annex AL to the Foreign Trade Ordinance – as last amended by the Ordinance 29 April 2005 (*Bundesanzeiger* 2005 p. 7117, see also NLB 74 p. 49) was published by 105th Ordinance to Amend the Export List – Annex AL to the Foreign Trade Ordinance – of 10 July 2006 (*Bundesanzeiger* 2006 p. 5093 and No. 132a/2006).

Iceland

Radiation protection (including nuclear emergency planning)

Regulations in the Field of Radiation Protection (2003)

Following the adoption of the Act on Radiation Protection in 2002 (see *Nuclear Law Bulletin* No. 74; the text of the act was reproduced in the Supplement to that *Bulletin*), a series of new regulations was adopted to implement that legislation and to repeal and replace the previous regulations in this field (see *Nuclear Law Bulletin* No. 41).

The new regulations issued by the Ministry of Health and Social Security are as follows:

- Regulation 626/2003 on Radiation Protection in Dental Radiology.
- Regulation 627/2003 on Maximum Values for Exposure of Workers and the Public from Practices Using Ionising Radiation.
- Regulation 640/2003 on Radiation Protection in Medical Radiology other than Dental Radiology.
- Regulation 809/2003 on Radiation Protection in the Application of Unsealed Radioactive Sources.
- Regulation 810/2003 on Radiation Protection Requirements for Tanning Appliances.
- Regulation 811/2003 on Radiation Protection in the Application of Sealed Radioactive Substances.

Indonesia

Regime of nuclear installations

Decree on Nuclear Reactor Licensing (2006)

On 15 December 2006, the President of Indonesia signed into law Government Regulation No. 43 of 2006 concerning Nuclear Reactor Licensing. This Regulation implements Article 17(2) of the 1997 Atomic Energy Act (see *Nuclear Law Bulletin* No. 59). Further specific details remain to be regulated by the Chairperson of the Nuclear Energy Regulatory Agency (BAPETEN).

The regulation distinguishes between commercial and non-commercial nuclear reactors. The main distinction lies in the person who is entitled to construct, operate and decommission nuclear reactors. For commercial purposes, only state-owned companies, cooperatives or private companies are allowed to carry out such activities.

Chapter I contains general provisions, including definitions. Chapter II focuses on the scope and purposes of this legislation. Chapter III outlines the licensing regime, establishing requirements for the applications for site approval, construction, commissioning, operation and decommissioning. BAPETEN is required to complete evaluation of any given application within a certain time period, depending on the licence concerned. For example, in the case of a construction permit, BAPETEN is required to provide its evaluation within a maximum period of two years from the date on which all documents necessary for the application were submitted. This chapter also contains provisions on financial guarantees covering liability for nuclear damage and on the necessity of ensuring that a company has the financial capability to continue operations from construction up to decommissioning of a nuclear reactor.

Chapter IV sets out the possibility to modify the system, structure or components of a nuclear reactor, and provides that the Chairperson of BAPETEN shall adopt further measures on this subject. Chapter V provides the legal basis for BAPETEN inspections, which shall also be the subject of further regulation by the BAPETEN Chairperson.

Ireland

Transport of radioactive materials

Carriage of Dangerous Goods by Road Act 1998 (Appointment of Competent Authorities) Order (2006)

This Order was adopted as Statutory Instrument No. 407 on 31 July 2006. It appoints the Radiological Protection Institute of Ireland as the competent authority to perform the functions conferred on competent authorities by or under the Carriage of Dangerous Goods by Road Act 1998.

The functions to be performed are those relating to the carriage by road of radioactive materials of ADR Class 7, including the approval of specialisation courses for the training of drivers of vehicles carrying radioactive material of ADR Class 7 and the examination of persons who have participated in those courses, pursuant to Regulations 45 to 51 of the principal regulations.

Italy

Radiation protection (including nuclear emergency planning)

Decree on Emergency Planning with Regard to the Transport of Radioactive and Fissile Materials (2006)

This decree, adopted on 10 February 2006, implements Article 125 of the 1995 Decree relating to the Protection of Workers and the Public against Ionising Radiation (see *Nuclear Law Bulletin* Nos. 56 and 69; the text of the decree is reproduced in the Supplement to *Bulletin* No. 58).

This instrument establishes procedures pursuant to which the public authorities have to draw up emergency plans with regard to the transport of radioactive materials. These procedures are designed to favour the development of “best practices”. Emergency planning must take place at both national and provincial level. At national level, the Prime Minister’s Office – Department of Civil Protection shall include in the national emergency plan measures necessary to protect the public and property in the event of a fissile incident in the course of transport of radioactive materials, and whose effects cannot be managed at provincial level. At provincial level, the competent prefect, on the basis of the technical report drawn up by the Agency for Environmental Protection and Technical Services (APAT), prepares a provincial emergency plan in collaboration with the interested region.

Netherlands

Regime of nuclear installations

Covenant Between the Government and the Borssele Operator Concerning the Life Extension (2006)

On 16 June 2006, a covenant was concluded between the Dutch Government and the operators of the Borssele nuclear power plant concerning the plant’s life extension. N.V. *Elektriciteits Produktiemaatschappij Zuid-Nederland EPZ* (hereinafter EPZ) was granted a licence for an indefinite period pursuant to the 1963 Nuclear Energy Act to operate the Borssele nuclear power plant. Essent Energie B.V. and Delta Energie B.V. each hold a 50% stake in the shares of EPZ.

The covenant provides for the NPP to continue operating until 31 December 2033 at the latest. Under its terms, Delta B.V. and Essent B.V. will invest in innovative types of sustainable energy and in the reduction of CO² emissions. A special fund is also to be set up by them to support the development of new clean energy technologies.

The covenant further provides that Borssele shall be one of the 25% safest water-cooled and water-moderated power reactors in the European Union, the United States of America and Canada, to which end a Committee of independent experts to be established by the parties shall regularly carry out benchmarking. It also provides that Borssele shall be dismantled as soon as possible after being shut down.

New Zealand

Radiation protection (including nuclear emergency planning)

Consolidated Edition of the 1965 Radiation Protection Act (2005)

On 13 September 2005, a consolidated edition of the 1965 Radiation Protection Act, as amended, (see *Nuclear Law Bulletin* No. 15) was published. This text is available at the following URL: <http://rangi.knowledge-basket.co.nz/gpacts/reprint/text/2005/an/049.html>.

Poland

Radiation protection (including nuclear emergency planning)

Regulation on Ionising Radiation Sources (2006)

This Regulation on Detailed Safety Requirements for Work Involving Ionising Radiation Sources was adopted by the Council of Ministers on 12 July 2006 and entered into force on 22 August 2006. It was made pursuant to the 2000 Atomic Energy Act (see *Nuclear Law Bulletin* Nos. 67 and 69; the text of the act is reproduced in the *Supplement* to NLB No. 68). This instrument defines:

- technical and radiation protection requirements imposed on laboratories using radioactive sources or devices containing such sources, and requirements for devices generating ionising radiation and for laboratories using such devices;
- specimens of warning sign boards for signposting entrances to laboratories or places where radioactive sources are stored;
- the classification of isotope laboratories with unsealed radioactive sources into different categories;
- regulations governing work involving radioactive sources, devices containing such sources and devices generating ionising radiation, where such applications take place outside laboratories;
- the manner in which ionising radiation sources should be controlled and registered, the frequency of such control and its documentation.

Romania

Organisation and structure

Decision Approving the Structure and Organisation of the Romanian Nuclear Agency (2007)

Government Decision No. 267 of 2007 was adopted on 14 March 2007 and published in Official Gazette No. 213 of 29 March 2007. It provides that the Nuclear Agency (hereinafter NA) is a specialised body of the central public administration, has legal personality and is subordinated to the Government and co-ordinated by the Prime Minister. NA's primary purpose is to provide specialised technical assistance to the Government by formulating nuclear policy and by promoting, developing and monitoring nuclear activities in Romania. In performing its tasks, NA collaborates with the specialised bodies of the public administration at national and local levels, with other public

institutions and with legal entities which have responsibilities in the nuclear sector, with nongovernmental organisations and professional associations in the field. NA shall present a report to the Prime Minister on a quarterly basis regarding its activities in general, international developments in the nuclear sector and on the implementation of the National Plans in the nuclear field.

Amendment of the 2003 Decision Approving the Internal Rules of the National Commission for the Control of Nuclear Activities (CNCAN) (2007)

Government Decision No. 69, adopted on 24 January 2007, modifies and completes Government Decision No. 1627 Approving the Internal Rules of the CNCAN (see *Nuclear Law Bulletin* Nos. 73 and 74), and was published in Official Gazette No. 77 of 1 February 2007. Several new offices have been created under the direct authority of the CNCAN President: the Office of Management Control, the Office of Programmes, and the Legal Office. The Section on Emergency Preparedness was also placed under the direct supervision of the CNCAN President.

Radioactive waste management

Amendment of the 2003 Ordinance on the Management of Spent Nuclear Fuel and Radioactive Waste, including Final Disposal (2007)

Act No. 27 adopted on 15 January 2007 approved Government Ordinance No. 38 on Modification and Completion of Ordinance No. 11/2003 on the Management of Spent Nuclear Fuel and Radioactive Waste, including final disposal (see *Nuclear Law Bulletin* Nos. 71, 72 and 78). It was published in Official Gazette No. 38 of 18 January 2007. This amendment provides that the revised objective of this ordinance is as follows: establishing the responsibilities of the various bodies involved in the different stages of radioactive waste management and providing for the financial resources necessary to perform management activities regarding radioactive waste resulting from the operation and closure of radiological and nuclear installations, under nuclear safety conditions that protect workers, the public and the environment against the hazards of ionising radiation, without compromising the needs and aspirations of future generations.

The ordinance further provides that activities related to the management of radioactive waste shall be carried out in accordance with the provisions of the Medium and Long Term National Strategy for the Safe Management of Radioactive Waste and Spent Nuclear Fuel, a component of the National Nuclear Development Strategy. Special provisions relating to the financial resources necessary for the decommissioning of nuclear installations were introduced.

Russian Federation

Organisation and structure

Act on Administrative and Property Management of the Civilian Nuclear Energy Sector (2007)

On 6 February 2007, the President signed a Federal Bill on the Management and Disposal of the Property and Shares of Organisations Operating within the Country's Nuclear Energy Sector. The bill was adopted by the State Duma (lower House of Parliament) on 19 January 2007 and approved by the Federal Council (Upper House) on 24 January 2007.

The act legalises ownership of nuclear materials and installations by entities other than the State, and provides for creation of a State-owned holding company for all enterprises involved in the civilian nuclear sector, to be known as *Atomenergoprom* (Atomprom). This holding company will have several branches, each of which will be responsible for part of the national nuclear industry. It does not apply to the military nuclear industry. Atomprom will control the whole nuclear cycle from uranium production through electricity generation, and will oversee nuclear power plant construction in Russia and a broad development of nuclear engineering capabilities and scientific institutions.

Slovak Republic

General legislation

Amendment of the Atomic Act (2007)

In March 2006, the Slovak Government approved a resolution authorising the Nuclear Regulatory Body (UJD) to prepare an amendment to the 2004 Atomic Act (see *Nuclear Law Bulletin* No. 74) in order to modify the manner in which the regulatory body is financed.

In February 2007, the National Council adopted Act No. 94/2007 Coll. introducing extensive changes in this area. It will enter into force on 1 January 2008. The objective is to move towards a system by which UJD will be financed both from the State budget and by the nuclear operators, with a view to creating an increased income for the regulatory body. This system was inspired from already-existing models (e.g. in Finland, Hungary and Bulgaria) where national operators are obliged to contribute financially to State nuclear supervision performed by their regulatory bodies.

During recent years, the Slovak economy has undergone extensive transformation where its financial situation precluded it from providing sufficient financial resources from a limited State budget to operate and maintain a high-level regulatory body. An insufficient number of professional staff, as well as high turnover in that staff, have marked the regulatory body over recent years.

The scheduled shutdown of the two reactors of NPP Bohunice VI (2006, 2008) as well as new plans to complete the construction of two reactors at the NPP Mochovce (3, 4), drew substantial attention to this deficit with regard to the regulatory body. The alternative model of financing is designed to stabilise professional staff, to support assessment and inspection activities through extensive research and safety analysis and to assure nuclear safety requirements associated with new challenges.

Under the revised provisions of the Atomic Act, the licence-holder shall contribute an annual financial contribution for each licence granted (e.g. holders of licences for construction, commissioning, operation, decommissioning, shipment of radioactive materials, closure of repositories, management of nuclear materials, radioactive waste and spent fuel, personnel training).

Contributions are calculated on the basis of one of the following, depending on the licence and on the type of nuclear facility concerned:

- total installed thermal capacity (for NPPs);
- number of stored fuel assemblies (for fuel storages);
- radioactivity volume (for technologies for treatment and conditioning of radioactive waste);

- number of fibre-reinforced concrete containers (for repositories);
- lump-sum basis for nuclear materials management outside nuclear installations, personnel training etc.

Contributions provided will be considered to be State budget revenue and they will be listed in the bookkeeping governing revenue and expenditure of UJD. These sums shall be used exclusively for the performance of State nuclear supervision.

Slovenia

Radiation Protection (including nuclear emergency planning)

Regulation on Monitoring of Radioactivity (2007)

This Regulation was adopted on 26 January 2007 jointly by the Minister of the Environment, the Minister of Health and the Minister of Agriculture, and was published in Official Gazette No. 20/07.

The regulation is divided into three main areas: overall environmental monitoring of radioactivity, so-called “operational” monitoring of radioactivity and monitoring of radioactive contamination (emergency monitoring). For all three categories, it determines the legal basis for monitoring, the qualifications of and conditions applying to persons carrying out monitoring activities, the methodology for taking measurements and samples, the quality of equipment and the method by which the public should be informed. It also determines the scope and method for the drawing up and adoption of an annual environmental and operational monitoring programme.

This regulation implements Council Directive 96/29/Euratom of 13 May 1996 Laying Down Basic Safety Standards for the Health Protection of the General Public and Workers Against the Dangers of Ionising Radiation, Commission Recommendation 2000/473/Euratom of 8 June 2000 on the Application of Article 36 of the Euratom Treaty Concerning the Monitoring of the Levels of Radioactivity in the Environment for the Purpose of Assessing the Exposure of the Population as a whole, and Commission Recommendation 2004/2/Euratom of 18 December 2003 on Standardised Information on Radioactive Airborne and Liquid Discharges into the Environment From Nuclear Power Reactors and Reprocessing Plants in Normal Operation.

South Africa

General legislation

Regulations on the Contents of the Annual Public Report (2006)

In the Government Gazette No. 29050 Notice No. 716 of 28 July 2006, the Minister of Minerals and Energy, after consultation with the Board of the National Nuclear Regulator, and pursuant to Section 7 (1) (j) of the National Nuclear Regulator Act of 1999 (see *Nuclear Law Bulletin* No. 65; hereinafter “the NNR Act”), published Regulations on the Contents of the Annual Public Report on the Health and Safety related to the Workers, the Public and the Environment associated with all sites on which a nuclear installation is situated or on which any action which is capable of causing nuclear damage is carried out (Public Report Regulations).

The Public Report Regulations provide that the National Nuclear Regulator shall provide an annual public report that shall include but not be limited to the following aspects:

- list of all authorised actions in the reporting period;
- list of certificates of exemption issued in the reporting period;
- background description of authorised actions and related radioactive material;
- occupational exposure to radiation (normal operation);
- projected public exposure to radiation (normal operation);
- safety of plant and operations (nuclear safety);
- competency and sufficiency of the operator workforce to work safely;
- transport safety;
- radioactive waste safety;
- environmental protection (control of radioactive discharges to the environment and environmental surveillance programme);
- nuclear emergency planning and preparedness;
- physical security;
- safety of sealed radioactive sources under the jurisdiction of the Regulator;
- nuclear incidents/accidents reported;
- regulatory compliance inspections;
- regulatory warnings or directives to stop work;
- regulatory independent verification of radiological environmental analysis;
- regulatory capacity and number of appointed inspectors;
- appeals to the chief executive officer or the Board.

Finally, Section 4 provides that failure to comply with these regulations shall constitute an offence as contemplated in Section 52(2) of the NNR Act.

Radiation protection (including nuclear emergency planning)

Regulations on the Keeping of Records (2006)

In the Government Gazette No. 29078 Notice No. 778 of 4 August 2006, the Minister of Minerals and Energy, after consultation with the Board of the Regulator, and under Section 37(3)(a) of the National Nuclear Regulator Act of 1999 (see *Nuclear Law Bulletin* No. 65; hereinafter “the NNR Act”), made Regulations on the Keeping of a Record of all Persons in a Nuclear Accident Defined Area (Regulations on the Keeping of Records).

Section 2 of these regulations provides that when a nuclear accident has occurred and the Regulator has defined the period and the area of the nuclear accident pursuant to Section 37(2)(b) of the NNR Act, the Regulator must keep a record of each person who, according to its information, was

within the area so defined at any time during the period so defined in the manner as specified in Section 3.

Finally, Section 4 provides that failure to comply with these regulations shall constitute an offence pursuant to Section 52(2) of the NNR Act.

Regime of nuclear installations

Regulations on Safety Standards and Regulatory Practices (2006)

The National Nuclear Regulator Act of 1999 (see *Nuclear Law Bulletin* No. 65; hereinafter “the NNR Act”) provides that the objectives of the Regulator are, *inter alia*, to provide for the protection of persons, property and the environment against nuclear damage through the establishment of safety standards and regulatory practices. Chapter 5 of the NNR Act relates to safety and emergency measures and Section 36 under this chapter provides for safety standards and regulatory practices. This section states that the Minister must, on the recommendation of the Board of Directors of the Regulator (the Board), make regulations regarding safety standards and regulatory practices.

Pursuant to Section 36, read with Section 47, of the NNR Act the Minister, after consideration of public comments and consultation with the Board, published Regulations on the Safety Standards and Regulatory Practices (Safety Standards). These Safety Standards were published under Government Gazette No. R388 (28755) of 28 April 2006.

These Safety Standards reflect and amount to the codification of some of the provisions of the International Basic Safety Standards for Protection against Ionising Radiation and for the Safety of Radiation Sources (IAEA Safety Series No. 115).

In summary the Safety Standards provide for the following:

Section 1 – Definitions

In Section 1, the Safety Standards set out definitions not provided for in the NNR Act.

Section 2 – Exclusions; Exemptions; Registration; Licensing, and Clearance

Section 2.1 provides for the exclusion of actions and introduces levels of radioactivity concentration in material below which the NNR Act does not apply.

Section 2.2 provides for exemptions and sub-Section 2.2.1 states the general principles to be complied with for the issue of a certificate of exemption in terms of Section 22 (3) (b) (ii) of the NNR Act. Sub-Section 2.2.2 provides criteria to be fulfilled in all feasible situations for actions involving radioactive material to qualify for exemption by the Regulator without further considerations.

Sub-Section 2.2.3 provides that actions not qualifying for exemption without further consideration can be given further consideration subject to a case-by-case evaluation by the Regulator based on the specific radioactivity, the total radioactivity of discrete radioactive nuclides or on exposure scenarios. Finally, sub-Section 2.2.4 provides that for transport of radioactive material the exemption criteria are those provided in the IAEA Regulations for the Safe Transport of Radioactive Material.

Section 2.3 provides for registration and states that actions, other than those qualifying for a certificate of exemption or which require a nuclear installation licence or nuclear vessel licence, must be subject to a process of registration as provided in Sections 22 and 23 of the NNR Act.

Section 2.4 provides for licensing and states that any nuclear installation or nuclear vessel must be subject to the process of licensing as provided in Sections 21, 23 and 24 of the NNR Act.

Section 2.5 provides for clearance and states that radioactive material falling within a nuclear installation licence, nuclear vessel licence or a certificate of registration may be cleared from future compliance with the requirements of a nuclear authorisation if they meet the principles of exemptions or if approval has been given by the Regulator on a case-by-case consideration.

Section 3 – Principal Radiation Protection and Nuclear Safety Requirements

This section provides that the following principal radiation protection and nuclear safety requirements apply to actions authorised by, or seeking authorisation in terms of a nuclear installation licence, a nuclear vessel licence or a certificate of registration:

- dose and risk limits;
- optimisation of radiation protection and nuclear safety;
- prior safety assessments;
- good engineering practices;
- safety culture;
- retrospective application of regulations;
- regulatory approval of radiation protection and nuclear safety measures;
- accident management and emergency planning, emergency preparedness and emergency response;
- defence in depth; and
- quality management.

Section 3.11 provides that the application of radioactive protection and nuclear safety requirements contained in these regulations to any action should be commensurate with the characteristics of the action and with the magnitude and likelihood of the exposure, as determined by the safety assessments. This section concludes that not all the requirements are relevant to every action.

Section 4 – Requirements Applicable to Regulated Actions

This section provides that, subject to Section 4.12, the following requirements apply to actions authorised by a nuclear installation licence, a nuclear vessel licence or a certificate of registration:

- operational safety assessments;
- controls and limitations on operation;
- maintenance and inspection programme;
- staffing and qualification;

- radiation protection (under this principle are further principles of optimisation: dose constraint: annual authorised discharge quantity: radiation dose limitation: medical surveillance and health register, and dose register);
- radiation waste management;
- environmental monitoring and surveillance;
- transport of radioactive material;
- physical security;
- records and reports; and
- monitoring of workers.

Section 4.12 provides that for actions where a prior safety assessment or the subsequent workplace monitoring demonstrates that the occupational exposure to radon does not exceed an ion level of 6 mSv/a, the requirements of Section 4 applicable to occupational exposure to radon shall be limited to those staff, medical surveillance, dose register, records and reports and workplace monitoring.

Section 5 – Decommissioning

Section 5 contains requirements that apply to actions authorised by a nuclear installation licence, a nuclear vessel licence or a certificate of registration which involves the decommissioning of an installation, plant or equipment having an impact on radiation protection and nuclear safety, or the release of contaminated land for other uses. These requirements are the following:

- decommissioning strategy and planning;
- availability of resources;
- all decommissioning operations must be conducted in compliance with the applicable requirements of Section 4;
- release of contaminated land (criteria being that contaminated land must be below levels of exclusion, or does not exceed dose constraints, or the land is released for restricted use); and
- obligations under other statutes must be met.

Section 6 – Accidents, Incidents and Emergencies

Section 6 states provisions applicable to emergency exposure situations requiring protective action to reduce or avert temporary exposures.

Sections 6.1 and 6.2 provide criteria for the definition of a nuclear accident and a nuclear incident, respectively. Section 6.2 requires the holder of a nuclear authorisation to immediately inform the Regulator when a nuclear accident or nuclear incident occurs and the kind of information to be provided. Finally, Section 6.4 provides that emergency or remedial measures must be considered in the vicinity of a nuclear accident where it is possible that any member of the public may receive an annual effective dose of more than 1 mSv resulting from the accident.

Section 7 provides for general provisions and a list of exempted radioactivity concentrations and exempted total radioactivity content is provided in Annexure 1.

Dose limits for occupational exposure (covering general, apprentice and students, women and emergencies); exposure of visitors and non-occupationally exposed workers at sites; public exposure, are all provided for under Annexure 2.

Finally, Annexure 3 provides for the probabilistic risk limits for the public and workers.

Sweden

General legislation

Amendment to the Act and Ordinance on Nuclear Activities (2006)

On 1 July 2006, stricter requirements on the use of contractors in nuclear activities entered into force in Sweden. There had already been a legal requirement that all contractors whom licence-holders wish to associate with their operational activities must be approved by the Swedish Nuclear Power Inspectorate (SKI). The new provisions limit the number of sub-contractors that can be used for any given activity. Amended Article 5 of the 1984 Act on Nuclear Activities (see *Nuclear Law Bulletin* Nos. 31 and 33; the text of the act is reproduced in the Supplement to NLB No. 33) provides that there can be at most two contractors involved in any specific task. This means that it is no longer possible to utilise contractors sub-contracting other contractors in several tiers.

It is important to point out that these provisions only apply to “nuclear activities” pursuant to the Swedish legislation. This means that a range of activities, although of vital importance for nuclear operators, are not subject to these requirements. For example, the manufacturing of components to be installed in a nuclear power plant is not considered to be a nuclear activity, although their installation is.

In a simultaneous amendment of the 1984 Ordinance on Nuclear Activities (see also *Nuclear Law Bulletin* Nos. 31 and 33; the text of the ordinance is reproduced in the Supplement to NLB No. 33), SKI was authorised to issue regulations on certain exemptions from the requirement that all contractors need to be approved before engaging in nuclear activities. If **only one** contractor is to be used for a specific activity, the approval process can be replaced by a notification to SKI. On 13 December 2006, SKI issued new regulations providing that a simplified notification procedure can be used for most types of nuclear activities, provided that the prescribed management and control measures exist and that a satisfactory assessment of the contractor has been conducted.

The following illustration gives an overview of the new requirements regarding contractors in nuclear activities:

<p>Licence-holder</p> <p style="text-align: center;">↓</p> <p>Contractor</p> <p style="text-align: center;">↓</p> <p>Sub-Contractor</p> <p style="text-align: center;">✱</p> <p style="text-align: center;">↓</p> <p>Sub-Sub-Contractor</p>	<p>Commission is allowed; approval is needed unless there is an exemption in the SKI regulations 2006:1.</p> <p>Commission is allowed; approval is always needed.</p> <p>Commission is not allowed.</p>
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INTERNATIONAL REGULATORY ACTIVITIES

European Union

Council Directive on the Supervision and Control of Shipments of Radioactive Waste and Spent Fuel (2006)

Council Directive 2006/117/Euratom of 20 November 2006 aims to reinforce the Community system of supervision and control of transboundary shipments of radioactive waste and spent fuel, so as to guarantee an adequate protection of the population.

As stipulated in Article 23, Directive 2006/117/Euratom repeals, with effect from 25 December 2008, Directive 92/3/Euratom of 3 February 1992 on the Supervision and Control of Shipments of Radioactive Waste between Member States and into and out of the Community (see *Nuclear Law Bulletin* No. 49).

It appeared necessary to community authorities to amend the system in place, in the light of experience, to clarify and add concepts and definitions, to address situations that had been omitted in the past, to simplify the existing procedure for the shipment of radioactive waste between Member States and to guarantee consistency with other Community and international provisions, and in particular with the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, to which the Community acceded on 2 January 2006.

Directive 2006/117 now applies, not just to shipments of radioactive waste, but also to shipments of spent fuel, whether they are destined for final disposal or for reprocessing. Article 1 provides that this directive shall apply to transboundary shipments of radioactive waste or spent fuel whenever:

- the country of origin/destination/transit is a Member State of the Community; and
- the quantities and concentration of the consignment exceed the levels laid down in Article 3(2) points (a) and (b) of Directive 96/29/Euratom.

It shall not apply however to shipments of disused sources to a supplier or manufacturer of radioactive sources or to a recognised installation; to shipments of radioactive materials, recovered, through reprocessing, for further use; or to waste that only contains naturally occurring radioactive material.

The directive sets out the various formalities which must be undertaken by the “holder” of radioactive waste or spent fuel who is defined as any natural or legal person who is responsible under the applicable national law for such materials and plans to carry out a shipment to a consignee.

With regard to intra-community shipments, one of the developments with regard to the 92/3 Directive is that where all formalities are accomplished, the silence of the destination or transit state shall be assimilated to consent after a certain period of time. In order to avoid countries systematically refusing all passages, refusals must be reasoned and must be based on the relevant national, community or international legislation applicable to the transport of radioactive material, or the national legislation on the management of radioactive waste or spent fuel.

Furthermore, Member States which gave consent to transit for any given shipment may not refuse to give consent to reshipment when such materials were shipped for treatment or reprocessing purposes and all relevant legislation has been respected, or in the case of shipment failure.

As regards extra-community shipments, an administrative shipment procedure is established, and certain limitations are laid down. A standard document is to be used for all shipments within the scope of this directive.

Member States are required to bring into force the necessary laws, regulations and administrative provisions to comply with this directive before 25 December 2008.

NEWS BRIEFS

Accession of the European Atomic Energy Community (Euratom) to the MNEPR Agreement

The Multilateral Nuclear Environmental Programme in the Russian Federation (MNEPR) aims to provide a framework designed to promote co-operation in the field of safety of spent nuclear fuel and radioactive waste management in the Russian Federation (see *Nuclear Law Bulletin* Nos. 71, 73 and 76).

The MNEPR Agreement and its Protocol on Claims, Legal Proceedings and Indemnification were signed in Stockholm on 21 May 2003 and entered into force on 14 April 2004. Both texts are reproduced in *Nuclear Law Bulletin* No. 71.

The Framework Agreement was ratified, accepted or approved by Belgium, Denmark, Finland, France, Germany, the Netherlands, Norway, Russia, Sweden, the United Kingdom and signed by the United States, the European Community and the European Atomic Energy Community. The European Bank for Reconstruction and Development (EBRD) and the Nordic Environment Finance Corporation (NEFCO) deposited their instruments of accession on 4 March 2004 and on 19 January 2005 respectively (see *Nuclear Law Bulletin* Nos. 73 and 76).

The European Commission adopted on 4 December 2006, on behalf of Euratom, a Decision [2006/890/Euratom] concerning the conclusion of the MNEPR Agreement and its Protocol.

50th Anniversary of the Nuclear Law Committee

The NEA's Nuclear Law Committee (NLC) celebrated its 50th anniversary on 6 February 2007. This Committee was originally founded on 24 January 1957, although for most of its existence it was known by a different name, the Group of Governmental Experts on Third Party Liability in the Field of Nuclear Energy.

To mark this special occasion, a Colloquium on the Past, Present and Future of the Nuclear Law Committee was held at the Château de la Muette in Paris, with Committee members and special guests in attendance. Special guests included past chairpersons and vice-chairpersons of the Committee and former Heads of NEA Legal Affairs. Presentations were made by Director-General of the NEA Mr. Luis Echávarri, Head of NEA Legal Affairs Mrs. Julia Schwartz, and by current members of the NLC Dr. Norbert Pelzer (Germany) and M. Marc Léger (France).

The proceedings of this colloquium are available at: www.nea.fr.

Communication from the Commission to the European Council and the European Parliament on an Energy Policy for Europe (2007)

In its communication, published on 10 January 2007, the European Commission proposed a comprehensive package of measures to establish a new energy policy for Europe to combat climate change and boost the EU's energy security and competitiveness. The package of proposals sets a series of ambitious targets on greenhouse gas emissions and renewable energy and aims to create a true internal market for energy and strengthen effective regulation. The Commission proposes that the European Union commits now to cut greenhouse gas emissions by at least 20% by 2020, in particular through energy measures.

The Commission considers that research is crucial to lower the cost of clean energy and to put EU industry at the forefront of the rapidly growing low carbon technology sector. To meet these objectives, the Commission will propose a strategic European Energy Technology Plan. The European Union will also increase by at least 50% its annual spending on energy research for the next seven years.

At present, nuclear electricity makes up 14% of EU energy consumption and 30% of EU electricity. The Commission proposals underline that it is for each Member State to decide whether or not to rely on nuclear electricity. The Commission recommends that where the level of nuclear energy reduces in the EU, this must be offset by the introduction of other low-carbon energy sources; otherwise the objective of cutting greenhouse gas emissions will become even more challenging.

As set out in a new Nuclear Illustrative Programme,¹ at EU level, the role should be to develop further, in conformity with Community law, the most advanced framework for nuclear energy in those Member States that choose nuclear power, meeting the highest standards of safety, security and non-proliferation as required by the Euratom Treaty. The Commission also acknowledges, however, that nuclear power also raises important issues regarding waste and decommissioning so these issues should also be included in future Community work.

In order to make progress in the fields of nuclear safety and security, the Commission proposes to establish an EU High Level Group on Nuclear Safety and Security with the mandate of progressively developing common understanding and, eventually, additional European rules, on nuclear safety and security.

European Atomic Energy Community

Commission Communication on 50 Years of the Euratom Treaty

25 March 2007 marked the 50th anniversary of the signing of the Treaties of Rome, the basis of the European Economic Community, now the European Community, and the European Atomic Energy Community, often referred to as Euratom. On 20 March 2007, the Commission addressed a Communication to the Council and the European Parliament,² considering that this anniversary provides an opportunity to consider the main "Euratom rules" with a view to better future action.

1. Nuclear Illustrative Programme – COM(2006)844.

2. This communication of 20 March 2007 [COM(2007)124 final] is available on the EUR-Lex site at the following URL: http://eur-lex.europa.eu/LexUriServ/site/en/com/2007/com2007_0124en01.pdf.

The principal “Euratom rules” are as follows:

- the promotion of research and dissemination of knowledge;
- protection of the health of workers by basic standards;
- the Community perspective on investment in the nuclear sector;
- regular and equitable supplies for all users;
- safeguarding the peaceful use of nuclear materials;
- international cooperation in all competence areas, in particular in the fields of innovation, nuclear safety and security, radiation protection and non-proliferation.

The Commission considered in its communication that the results of the activities conducted for 50 years under the auspices of the Euratom Treaty can be regarded as extremely positive. The Treaty has enabled the Community to carry out important activities in a strategic sector, in particular in terms of energy supply for the EU. It is recognised as having made significant achievements in the field of research, the protection of health, safeguarding the peaceful use of nuclear materials and international relations.

The Commission further referred to the “longevity of the initial provisions of the Euratom Treaty” and noted that they inspired or anticipated the development of other fields of Community law, as did the Euratom inspections carried out since 1960 which paved the way for Community inspectorates in other fields (air and maritime safety etc.).

It notes that the ongoing debate on the definition of European energy policy centred on competitiveness, security of supply and environmental concerns provides an opportunity to consider future Euratom action. It believes that in future, the application of the Euratom Treaty must continue to focus on nuclear safety and security.

The Commission concludes by stressing the importance of maintaining a technological lead in the nuclear field, supporting the development of the most advanced framework in this area, including in the fields of the safety and security of existing and future installations, non-proliferation, waste management and decommissioning. It states therefore that the Community will be required to continue providing help to support the development of the nuclear industry and to guarantee compliance with the highest radiation protection, safety and security standards for all uses of radioactivity in order to help raise the standard of living and increase the quality of life of people in the EU, whatever forms of energy individual States may choose, as well as beyond the EU’s frontiers in collaboration with third countries and international organisations.

G7 Endorsement of Nuclear Energy

On 13 April 2007, finance chiefs from G7, the world’s leading industrial nations, issued a joint statement which said “In order to ensure energy security and to address climate change, we consider energy efficiency and the promotion of energy diversification to be important issues for both developed and developing economies. Diversification can include advanced energy technology such as renewable, nuclear and clean coal”. This was the first time that G7 leaders unanimously accepted a statement including nuclear among potential alternative power sources.

Global Nuclear Energy Partnership

The Global Nuclear Energy Partnership (GNEP) is a comprehensive strategy to increase US and global energy security, reduce the risk of nuclear proliferation, encourage clean development around the world, and improve the environment.³

The GNEP has four main goals: first, reduce US dependence on foreign sources of fossil fuels and encourage economic growth; secondly, recycle nuclear fuel using new proliferation-resistant technologies to recover more energy and reduce waste; thirdly, encourage prosperity, growth and clean development around the world; and fourthly, utilise the latest technologies to reduce the risk of nuclear proliferation worldwide.

The GNEP strategy includes seven elements, outlined by the Secretary of the US Department of Energy (DOE), on 6 February 2006:

- building of a new generation of nuclear power plants in the US;
- developing and deploying new nuclear recycling technologies;
- working to effectively manage and eventually store spent nuclear fuel in the US;
- designing advanced burner reactors that would produce energy from recycled nuclear fuel;
- establishing a fuel services programme that would allow developing nations to acquire and use nuclear energy economically while minimising the risk of nuclear proliferation;
- developing and constructing small scale reactors designed for the needs of developing countries;
- improving nuclear safeguards to enhance the proliferation-resistance and safety of expanded nuclear power.

On 10 January 2007, the US DOE released the GNEP Strategic Plan, which details the initiative's purpose, principles and implementation strategy. The Plan outlines a path forward to enable worldwide increase in the use of safe, emissions-free nuclear energy without contributing to the spread of nuclear weapons capabilities in a manner that responsibly addresses the waste produced.

International Nuclear Law Association

2007 Nuclear Inter Jura Biennial Congress in Brussels

The 2007 Nuclear Inter Jura Congress will be held in Brussels, Belgium from 1 to 4 October 2007, followed by a technical visit which will be organised on 5 October.

The second announcement for this Congress comprising further details on the programme of this event is now available at: www.bnla.be.

3. More detailed information on the GNEP is available on the website of the US Department of Energy at the following address: www.gnep.energy.gov.

Joint Declaration on Co-operation signed by the OECD Nuclear Energy Agency and the Russian Federation (2007)

A Joint Declaration on co-operation was signed by the OECD Nuclear Energy Agency (NEA) and the Russian Federation on 21 March 2007 in Moscow during a ceremony attended by officials from the NEA and the Russian Federation agencies involved in its implementation. Konstantin Pulikovskiy, Chairman of the Federal Environmental, Industrial and Nuclear Supervision Service (Rostekhnadzor), signed on behalf of the Russian Federation and Director-General Luis Echávarri signed on behalf of the NEA.

The Joint Declaration opens the way for the Russian Federation to participate as a regular observer in all of the Agency's standing technical committees and their working groups. Coordination of the co-operation carried out under the Joint Declaration will be the responsibility of the Federal Agency for Atomic Energy (Rosatom) and the NEA Secretariat respectively.

The Joint Declaration has multiple goals: facilitating scientific research in the nuclear field; assessing innovative technology development; advancing national and international legal frameworks; and performing economic analyses essential for the safe, ecological and economical use of nuclear energy for peaceful purposes.

The NEA Steering Committee has identified the Russian Federation for a number of years in its outreach strategy, notably because of the country's sizable nuclear power programme, its technical capacity and the mutual benefit that would ensue from such cooperation. In the past, the Russian Federation has already participated in NEA work in the areas of nuclear safety, nuclear regulation and nuclear law. It also participates in a number of NEA joint projects, several of which it has hosted.

The text of the Joint Declaration in English, French and Russian is available on the NEA website, at the following URL: www.nea.fr/html/general/press/2007/declaration-text.pdf.

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