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International Convention for the Suppression of Acts of Nuclear Terrorism

by Odette Jankowitsch-Prevor*

The Convention for the Suppression of Acts of Nuclear Terrorism (“the convention”) adopted on 15 April 2005 by the United Nations General Assembly after seven years of preparatory work was opened for signature on 14 September at United Nations Headquarters in New York.¹ In accordance with Article 25 of the convention, it will enter into force after it has been ratified by 22 states.²

I. Background

The international community’s first efforts to establish an international legal instrument to combat international terrorism in all its forms and manifestations date back to the League of Nations. Following the assassination of King Alexander of Yugoslavia and French Minister Louis Barthou, the League of Nations, through the work of an expert committee, tried between 1934 and 1937 to create appropriate international instruments against terrorism by preparing a draft Convention for the Prevention and Punishment of Terrorism, 1937,³ and a draft project for an International Criminal Court. However, neither of these texts ever entered into force.

It was not until the 1970s that this issue returned to the agenda of international bodies with the United Nations Convention on the Prevention and Punishment of Crimes against Internationally Protected Persons, including Diplomatic Agents, adopted in 1973 – an instrument of specific scope – and the 1977 European Convention on the Suppression of Terrorism,⁴ of general scope. These two instruments, which failed to gain wide acceptance, were primarily aimed at co-ordinating the domestic law of the States Parties while allowing them to lodge reservations as to whether national law prevailed with respect to acts of violence considered to be based on political motives.

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1. By 29 November 2005, 93 states had signed the convention.
2. A/RES/59/290 of 15 April 2005, Resolution adopted by the General Assembly concerning the convention. Annex: International Convention for the Suppression of Acts of Nuclear Terrorism. Published in *Nuclear Law Bulletin* No. 75.
3. League of Nations. International Terrorism. Two League of Nations Conventions, 1934-1938 Compiled by Martin David Dubin, Millwood, NY; Kraus Microform, 1991. 18 fiches.
4. Treaty Series, vol. 1035, No. 15410.

The Committee on International Terrorism of the International Law Association, in its report to the 60th Conference held in Montreal in 1982,⁵ summarised a lengthy discussion of the legal work undertaken previously to establish an appropriate instrument to combat international terrorism by stating that the objective of preparing a single convention on international terrorism should be reconsidered in the future given the many theoretical and practical problems that such a project posed. However, there was agreement that the idea of such a convention should not be rejected, as it might be very useful to the international community for co-ordinating its efforts to gain control over the politically motivated violence that crosses borders but does not enter into the legally defined framework of “war” or “armed conflict” as envisaged by the 1949 Geneva Convention and the 1977 Protocols. The members of this Committee ultimately agreed that it was essential to ensure that any international instrument aimed specifically at suppressing and controlling terrorism and terrorist acts committed in peacetime should remain outside the law governing war.

Two main conclusions can be drawn from this brief historical summary. First, states have been trying to establish an international legal instrument against terrorist acts for a very long time. Secondly, a certain number of fundamental legal issues that had already been raised in the earliest work done on this issue still remain relevant in 2005.

This remains true despite the fact that there is no resemblance between terrorism as it was perceived in 1937 and the world situation at the beginning of the 21st century, either in terms of the international context, the causes and possible consequences of terrorist attacks, the quality and intensity of co-operation between states seeking to combat this phenomenon, or between the constraints that hampered the League of Nations because of its limited number of member states and the worldwide membership of the United Nations. Certain issues have been resolved by adopting specific instruments, such as the principle that no alleged perpetrator of an offence covered by an anti-terrorist instrument may invoke political reasons as grounds for avoiding prosecution or extradition. However, the main issue of whether it is legally and politically possible to establish a generally valid and comprehensive instrument to combat all forms and manifestations of terrorism has still not been resolved and remains as relevant as ever. A considerable number of conventions on the suppression of terrorist acts in specific sectors have been negotiated and adopted, but the project of a comprehensive instrument containing in particular a legal definition of terrorism has thus far eluded all attempts at codification.

In 1994, the United Nations General Assembly⁶ examined all the measures that states were encouraged to take in order to eliminate international terrorism and enumerated the existing legal instruments addressing various aspects of the problem of international terrorism. In the same resolution, the states made a commitment by “solemnly declaring” to conduct an analytical review of existing international instruments relating to international terrorism in order to assist states in identifying aspects of this matter that have not been covered by such instruments and could be addressed to further develop a comprehensive legal framework of conventions dealing with international terrorism.⁷ Thus, the commitment made was to “develop the framework further” without reference to a project for a single general instrument.

Consequently, whether or not a comprehensive convention can be negotiated remains an open question, and perhaps it will ultimately be resolved following the adoption of the Convention for the Suppression of Acts of Nuclear Terrorism. For this to happen, however, work on a comprehensive text

5. The International Law Association. Report of the Sixtieth Conference, Montreal, 1982 Pages 349 ff.

6. A/RES/49/60, 17 February 1995, Measures to eliminate international terrorism.

7. Ibid Annex, Chapter III, paragraph c).

against terrorism must be resumed without delay. The fact is that the legal debate on this issue is still very much alive, endlessly raising subtle but persistent political disagreements between the supporters of a general convention against terrorism and the proponents of a sectoral or thematic approach giving preference to a series of instruments that are limited in scope but have a broader common denominator. The fact that 12 conventions have been adopted and are listed as constituting a consistent set of instruments that, in accordance with numerous General Assembly resolutions and more particularly Security Council Resolution 1373 (2001), all states are urged to ratify, has only temporarily tilted the balance in favour of the proponents of a sectoral approach to the work of codification.

In fact, throughout the preparatory work on the Convention, many delegations repeatedly stressed “the importance of arriving at a clear and precise legal definition of terrorism” in the framework of a comprehensive instrument.⁸ Still, it proved possible to complete and adopt the text on the suppression of acts of nuclear terrorism even though the work on a comprehensive convention had still not been completed.

The project for this convention is now on the agenda of the UN General Assembly and its Ad Hoc Committee.⁹ The documents and draft resolutions prepared for the summit of heads of state and government at UN Headquarters (14-16 September 2005) express the wish of states to see the thematic instruments supplemented as soon as possible by a comprehensive convention on international terrorism. The “Draft outcome document of the High-level Plenary Meeting of the General Assembly”¹⁰ presented by its outgoing president states on behalf of the heads of state and government in a chapter entitled “Terrorism”:

“[We stress] the need to make every effort to reach an agreement on and conclude a comprehensive convention on international terrorism during the 60th session of the General Assembly”, without mentioning however the intention of including a legal definition of terrorism, and,

“We support efforts for the early entry into force of the International Convention for the Suppression of Acts of Nuclear Terrorism and strongly encourage states to consider becoming parties to it expeditiously”.

In addition, the UN Secretary-General’s main report¹¹ drafted for this summit entitled “In larger freedom: towards development, security and human rights for all”, also called attention to the urgency of completing the work on the Convention for the Suppression of Acts of Nuclear Terrorism and to the commitment made by states to agree upon a definition of terrorism and upon the drafting of a comprehensive convention.

8. A/60/37 Supplement No. 37, 1 April 2005, paragraph 19, page 19, Report of the Ad Hoc Committee established by General Assembly resolution 51/210 of 17 December 1996.

9. A/RES/51/210, (date of general distr.: 16 January 1997), Chapter III, paragraph 9.

10. A/59/L.70. 13 September 2005, paragraph 83, Draft Resolution presented by the President of the General Assembly, Draft final document of the High-level Plenary Meeting of the General Assembly of September 2005. [Limited Distrib.; final text and reference not yet available].

11. A/59/2005 “In larger freedom: towards development, security and human rights for all” Report by UN Secretary-General, [paragraphs 84 and 92].

II. Origins and general background of the Convention: the process of normative multilateral negotiations

The Russian Federation presented a draft convention on the suppression of acts of nuclear terrorism (in 1997)¹² at the first session of the Ad Hoc Committee established in December 1996 by General Assembly Resolution 51/210. At that time there was substantial progress on work which later led to the adoption in 1997 and 1999 of two conventions concerning the suppression of terrorist bombings and the suppression of the financing of terrorism, respectively.¹³ Because of this, several states thought that it was an auspicious time to broaden the range of instruments of thematic conventions without having to enter into the inevitable political debate about the nature of terrorism and its definition, regarding which it seemed highly unlikely that a consensus could be reached.

Resolution 51/210 (1997), which concerned the adoption of measures to eliminate international terrorism, also seems to have encouraged this step because of the precise language it used and the mandate it gave to an ad hoc committee that it established. In its preamble, the General Assembly resolution declares that states should bear in mind the possibility of considering in the future the “elaboration of a comprehensive convention on international terrorism” and recognises “the need to enhance international cooperation to prevent the use of nuclear materials for terrorist purposes and to develop an appropriate legal instrument”. The resolution also specifies that the Ad Hoc Committee will now be responsible for elaborating an “...international convention for the suppression of terrorist bombings and, subsequently, an international convention for the suppression of acts of nuclear terrorism, to supplement related existing international instruments, and thereafter to address means of further developing a comprehensive legal framework of conventions dealing with international terrorism”¹⁴ (words underlined by author).

Thus, the sequence of work seemed to be clearly established, giving priority to preparing two specific conventions consecutively and postponing the initiatives for a comprehensive convention to a later date. However, this interpretation of the resolution does not seem to have been shared by all delegations, for the preparatory work on the convention was marked by a parallel and often confused debate about these two approaches. At the end of the next-to-last session of the Ad Hoc Committee, its co-ordinator had concluded that “there was general agreement that preparation of the draft convention for the suppression of acts of nuclear terrorism was a distinct issue that should be considered on its own merits and that outstanding issues on this draft should be resolved separately”¹⁵.

The summary of the last session of the Ad Hoc Committee ultimately concluded that “once the nuclear terrorism convention was adopted, the Ad Hoc Committee could concentrate its efforts on solving the remaining outstanding issues relating to the draft comprehensive convention”.¹⁶ It was only after this work was completed – six years after it began – that the co-ordinator of the Ad Hoc Committee responsible for the Convention for the Suppression of Acts of Nuclear Terrorism was able to affirm that “in any event, the adoption of the Convention will enable the Ad Hoc Committee to

12. A/AC.252/L.3 of 28 January 1998, Convention on the suppression of acts of nuclear terrorism. Draft submitted by the Russian Federation.

13. A/RES/52/164 of the General Assembly and Resolution A/54/109.

14. Ibid. doc. cit. A/RES/210 Chapter III, paragraph 9.

15. A/59/37 Supplement 37, page 13, paragraph 4.

16. A/60/37 Supplement 37, pages 20-21, paragraph 25.

concentrate its efforts on solving the remaining outstanding issues relating to the draft comprehensive convention”.¹⁷

At its first session in 1997, the Ad Hoc Committee’s agenda included a draft convention on the suppression of acts of nuclear terrorism presented by the Russian Federation.¹⁸ At its second session, the Russian Federation submitted an additional document¹⁹ providing detailed explanations and annotations regarding the draft text. In presenting the draft, the Russian representative placed the convention in the context of the need to strengthen prevention and to fill the gaps in the existing international legal system for combating terrorism, especially in its most dangerous forms. In his opinion, the 1980 Convention on the Physical Protection of Nuclear Material (CPPNM)²⁰ had a number of serious gaps. The new convention might be able to correct this state of affairs and include key provisions aimed at planning an effective response to acts of nuclear terrorism rather than addressing problems of physical protection; extend the coverage of the convention to facilities and materials used for military purposes; define the *corpus delicti* clearly by taking into account the terrorists’ goal of acquiring nuclear materials; regulate the issue of the suppression of acts directed against facilities posing a special threat because of their use of nuclear materials – as well as self-made devices – and identify the states that should establish their jurisdiction over this type of crime and the other states that may also do so.²¹

The Ad Hoc Committee, in which generally only states participate, decided at its first meeting to invite the IAEA to help with the work, which it did in 1997 and 1998. At its second session, the committee had available a formal document submitted by the IAEA Secretariat containing a series of comments,²² including details on the statutory mandate of the IAEA, its main powers and objectives, detailed technical and legal comments on the definitions contained in the draft convention on the agenda, on the issue of possible overlapping between the draft convention and the CPPNM and on physical protection and co-operation and exchange of information between states.

The Ad Hoc Committee, despite the specific nature of its mandate, was still not ready to begin its work. Its members first had to agree on the fundamental issue that was to justify its work,²³ i.e. whether there was a real need to establish a new international instrument in this field. If so, it was necessary to define its scope of application carefully, taking the relevant existing instruments into account.

17. A/60/37, Supplement 37, page 21, paragraph 25.

18. Previously cited document; A/AC.252/L.3 28 January 1997. Convention on the Suppression of Acts of Nuclear Terrorism. Draft submitted by the Russian Federation.

19. A/AC.252/L.3/Add.1 of 14 January 1998. Explanatory note on the draft Convention on the Suppression of Acts of Nuclear Terrorism presented by the Russian Federation.

20. Convention on the Physical Protection of Nuclear Material, IAEA, INFCIRC/274/Rev., 1 May 1980.

21. Statement by A.V. Zmeyevskiy, Representative of the Russian Federation in the Sixth Committee of the 51st Session of the UN General Assembly, on agenda item 151, “Measures to Eliminate International Terrorism”, Unofficial translation, October 3, 1996 (informal distributed document).

22. Comments of IAEA Secretariat: A/AC.252/1998/L.5 of 27 February 1998. See also: A/AC.252 List of Participants in the Ad Hoc Committee established by Resolution 51/210 of the General Assembly, 17 December 1996.

23. A/53/37 Supplement 37, 23 July 1998, paragraphs 17-30. See also: A/C.6/53/L.4 of 2 October 1998: Report of the Working Group, Fifty-third session, Sixth Committee, Agenda item 155.

The Russian delegation had strongly emphasised that the instruments available to the international community did not have sufficiently broad coverage to include all terrorist acts and furthermore did not provide for the required prevention and suppression measures. The CPPNM, the sole instrument of nuclear law that could be used as a reference, was limited to the international transport of the nuclear materials used for peaceful purposes and therefore did not include nuclear materials of military origin at their sites and facilities inside states which could also be targets of terrorist acts. In addition, the CPPNM made no distinction between acts of nuclear terrorism and other criminal acts.

The draft convention, however, according to its proponents, had broad coverage, concerned all nuclear materials and was also based on international criminal law provisions similar to those contained in other recent anti-terrorist conventions, in particular those that had emerged from the same negotiation process.

Other delegations would have liked to begin by establishing a comprehensive legal regime for combating all types of terrorism. In their view, the definition of terrorism was a fundamental issue and had to be addressed before any other work was begun. They felt it was essential to avoid creating conflicting legal regimes or provisions that overlapped, which could undermine the effectiveness of existing instruments.

The comments of the IAEA Secretariat, which were referred to many times, mainly concerned the definitions of technical terms used in nuclear law contained in the draft convention aimed at helping to understand these terms and avoid contradictions or conflicts with the definitions of identical or similar terms contained in other relevant instruments, such as the CPPNM. The risks of duplication pointed out by the IAEA had led to a debate on the type of instrument to be developed, such as its suggestion that it might be preferable to prepare a Protocol to the CPPNM rather than a completely separate convention.

In this context, it should be mentioned that later, when the threat of a possible nuclear terrorist attack had become much more immediate, the IAEA took position very rapidly, for following the attacks of 11 September 2001 in the United States, the Board of Governors adopted a series of policy decisions at its September 2001 session,²⁴ and only a short time later the Director General proposed a consistent set of concrete measures that could be implemented without delay. Since then, the IAEA has monitored this issue systematically and adopted a long-term action plan as part of its various initiatives.²⁵

The priority objective was immediately to strengthen existing programmes concerning physical protection, the prevention of the acquisition of and illegal trafficking in radioactive materials, border controls and emergency measures. However, the Agency did not decide to undertake new initiatives in the normative field. Nevertheless, the draft amendments to the CPPNM aimed mainly at broadening its coverage, which had been supported by many states since 1996, then received additional support since there was an obvious need to strengthen the physical protection system as a whole without delay. The relevance of the Code of Conduct on the Safety and Security of Radioactive Sources in this field was recognised and the code was finally adopted in 2004 after lengthy work.

24. IAEA Document GOV/2001/50 of 11 November 2001, Report by the Director General.

25. IAEA Document GOV/2004/50 of 11 August 2004, Report by the Director General. See also GC(49)/17 Nuclear Security - Measures to Protect Against Nuclear Terrorism, Progress Report and Nuclear Security Plan for 2006-2009. Report by the Director General. See also: Treaties against nuclear terrorism; the global legal framework can make a difference. Larry Johnson in IAEA Bulletin 4/1/2002.

For all these initiatives, the IAEA had chosen an approach that was technical and pragmatic in nature, consisting of continually defining as accurately as possible the categories of new threats and risks arising from potential terrorist acts and proposing corresponding measures to states, but without trying to develop definitions regarding the legal or political nature of these acts.

Before concluding its work after its eight sessions and 35 meetings, the Ad Hoc Committee discussed many proposed amendments formulated by delegations, reviewed several complete draft convention texts prepared by the Committee's Bureau and its "Friends", and had innumerable informal consultations with its members. In addition, a working group of the Sixth Committee of the UN General Assembly responsible for legal affairs also took part in the work and the process of reviewing the different projects. It was only at the final session that a text could be established that obtained the consensus of the delegations. It is likely that the unusually long time that it took to complete this work was not due solely to the legal and technical difficulties involved in drafting the text, but rather to the fact that agreement on a draft text was blocked for a long time because of a lack of consensus on the priority to be given to this convention – supported by the Russian Federation and others – and the priority given by the United States and other countries to adopting other texts. The attacks carried out in 2004 may have been the factor that made it possible to break the deadlock and to conclude the work on this draft convention.²⁶

III. Contents of the Convention²⁷

Preamble

The Preamble, composed of 13 paragraphs and drafted in the usual style of a General Assembly resolution, is aimed at placing the convention in a number of relevant contexts. First, the convention is linked to the issue of the maintenance of international peace and security through a reference to the purposes of the United Nations under Article 1 of the Charter. Next, it is presented as being a further step in the decisions, measures and instruments developed by the United Nations over the past ten years with the common objective of eliminating international terrorism in all its forms. Lastly, the convention is placed in its specific nuclear context through a number of references. In its third paragraph, the Preamble contains a reference to the principle recognising "the right of all states to develop and apply nuclear energy for peaceful purposes and their legitimate interests in the potential benefits to be derived from the peaceful application of nuclear energy".

This paragraph is identical to the first paragraph of the Preamble of the CPPNM, and the same principle is stated again in the first paragraph of the Preamble of the Amendment to the CPPNM,²⁸ and constitutes a kind of general statement in favour of the peaceful use of nuclear energy and technology, without explicit reservations concerning non-proliferation, the safety and security of nuclear facilities

26. Note: See A/53/37 Supplement No. 37 and Reports on the following sessions of the General Assembly. Same reference. See also Report of the Working Group: A/C.6/53/L.4. The summary records of the discussions and conclusions of the sessions of the Ad Hoc Committee and all texts submitted to it and the relevant General Assembly documents are available on the UN sites <http://documents.un.org>; <http://untreaty.un.org>; and www.un.org/law.

See also: Legislative Guide to the Universal Anti-terrorism Conventions and Protocols. Document published by the United Nations Office on Drugs and Crime, NY 2004, Sales number F.04.V.7.

27. Previously cited document.

28. IAEA Document: GOV/INF/2005/10-GC(49)/INF/6 of 8 September 2005. Nuclear Security. Final Act and Text of the Amendment to the CPPNM.

or the management of radioactive waste. A draft amendment presented by the United States delegation²⁹ in the final phase of work that suggested adding the phrase “while recognising that the goals of peaceful utilisation should not be used as a cover for proliferation” to the sentence cited above, was apparently not retained.

Next, the Preamble mentions the 1980 Convention on the Physical Protection of Nuclear Material, and in the tenth paragraph the threat that “acts of nuclear terrorism may result in the gravest consequences and may pose a threat to international peace and security”.

Paragraph 11 of the Preamble justifies the decision to establish this convention given that “...existing multilateral legal provisions do not adequately address those attacks”. This paragraph is taken verbatim from the 1998 Convention for the Suppression of Terrorist Bombings³⁰ and a further element based on this convention has been added to the last paragraph: “the activities of military forces of states are governed by rules of international law outside of the framework of this convention and that the exclusion of certain actions from the coverage of this convention does not condone or make lawful otherwise unlawful acts, or preclude prosecution under other laws”.

Definitions

The first article provides the definition of six terms, most of which use the terminology taken from other instruments of international nuclear law, either verbatim or adding new elements, together with two general terms defined for the purposes of the convention on the basis of two recent sectoral anti-terrorist conventions. These terms are as follows:

1. “Radioactive material”: means nuclear material and other radioactive substances which contain nuclides which undergo spontaneous disintegration (a process accompanied by emission of one or more types of ionising radiation, such as alpha-, beta-, neutron particles and gamma rays) and which may, owing to their radiological or fissile properties, cause death, serious bodily injury or substantial damage to property or to the environment”.

This term, used here in the singular, is not contained in any nuclear convention. However, it does appear in a purely technical descriptive definition in the Regulations for the Safe Transport of Radioactive Material,³¹ but it does not follow the proposed wording presented by the IAEA³² at the Ad Hoc Committee’s second session.

2. “Nuclear material”: This definition uses verbatim paragraphs a) and b) combined of Article 1 of the CPPNM. Paragraph b) defining enriched uranium is identical to Paragraph 3 of Article XX of the IAEA Statute.

29. A/AC.252/2005/WP4 of 24 March 2005.

30. A/RES/52/164 of 9 January 1998.

31. Regulations for the Safe Transport of Radioactive Material. IAEA Safety Standards Series, No.TS-R-1 (ST-1, amended) 1996 Edition (amended) paragraph 236, page 12.

32. Previously cited document. A/AC.252/1998/L.5, paragraph 16.

3. “Nuclear facility” means:

- (a) Any nuclear reactor, including reactors installed on vessels, vehicles, aircraft or space objects for use as an energy source in order to propel such vessels, vehicles, aircraft or space objects or for any other purpose;
- (b) Any plant or conveyance being used for the production, storage, processing or transport of radioactive material.”

This definition specific to the convention is very broad in comparison to the definitions used in the other nuclear conventions. The initial version of this term proposed by Russia in the first draft of the convention was based on the definition in Article 1.1.(h) of the 1963 Vienna Convention on Civil Liability for Nuclear Damage, merely adding to it “reactors installed on vessels or aircraft”, which are still excluded from the Amendment to the CPPNM.

It should be mentioned that the Amendment to the CPPNM adds to Article 1 another, new definition of the term “Nuclear facility” which is different from that used in the 1963 Vienna Convention and this convention. It reads: “nuclear facility means a facility (including associated buildings and equipment) in which nuclear material is produced, processed, used, handled, stored or disposed of, if damage to or interference with such facility could lead to the release of significant amounts o radiation or radioactive material”.

4. “Device” means:

- (a) Any nuclear explosive device; or
- (b) Any radioactive material dispersal or radiation-emitting device which may, owing to its radiological properties, cause death, serious bodily injury or substantial damage to property or to the environment.”

This term, as was pointed out in the IAEA’s written comments cited above, is used in the Safeguards Agreements, which do not, however, provide any legal definition of the term.

Furthermore, the negotiators fortunately succeeded in avoiding the use of the non-technical term “dirty bomb”.

5. “State or government facility” includes any permanent or temporary facility or conveyance that is used or occupied by representatives of a state, members of a government, the legislature or the judiciary or by officials or employees of a state or any other public authority or entity or by employees or officials of an intergovernmental organisation in connection with their official duties.”

This term was not contained in the first draft. It uses verbatim the definition contained in the 1997 International Convention for the Suppression of Terrorist Bombings.

6. “Military forces of a state” means the armed forces of a state which are organised, trained and equipped under its internal law for the primary purpose of national defence or security and persons acting in support of those armed forces who are under their formal command, control and responsibility.”

As with the preceding term, the final version of the definition is based on the 1997 Convention mentioned above.

The number of terms used is, in fact, relatively limited, and this was only made possible by proposing broad definitions for terms that are, on the contrary, as precise and limited as possible in the existing nuclear conventions from which they are taken. It is nevertheless these few terms that give the convention its specifically “nuclear” character. From the outset of the work, the number of terms and the interpretation of each of them was one of the difficult and complex issues of the negotiations. The draft text of the convention submitted by the Russian Federation and its explanatory note had proposed a considerable number of terms used in technical nuclear vocabulary, such as “nuclear fuel”, “radioactive waste” and “radioactive materials”. To judge from the many amendments and counter-proposals submitted during the work by the various delegations, the Ad Hoc Committee seems to have given a great deal of attention to the drafting of the first article.³³

For example, there were diverging opinions until the work was concluded about whether reference should be made to the substantial environmental damage mentioned in paragraphs 1 and 4 of Article 1, since some delegations thought that this damage could be considered as implicit in “to cause death” or “substantial damage to property”.

However, the intention of the convention’s proponents, stated at the outset of the work, had not been to “establish a unified terminology that would be transposed directly into the domestic legislation of States Parties, but to create a conceptual system making it possible to implement the convention”.³⁴

Coverage

Article 2 of the convention, which is drafted using the precise terms of criminal law, does not contain the concept of “coverage”, but instead directly enumerates offences without describing them in terms of the formal distinction between crimes and offences, subject to the provisions contained in Articles 3 and 4, provided such offences are committed by a person unlawfully and intentionally. Intent is a fundamental concept of criminal law.

“Person” is understood as a natural person also within the meaning of criminal law, i.e. the international criminal liability of an individual, and not according to the legal definition used in civil law, which includes both natural and legal persons. The references made in paragraphs 4. b) and c) to “others” and “a group of persons” and specifically to a “legal person” in paragraph 1, b) iii), indicate that the potential victim may be a person.

The offences enumerated in Article 2, paragraphs 1 to 4, are categorised by whether the offence involves an act actually committed by a person alone, with specific intent, or a threat or blackmail or attempted blackmail, or complicity or the commission of a specified offence.

The offences are presented as follows:

1. Any person commits an offence if that person...:

33. Examples: Texts proposed by the United States: A/AC.252/1998/WP.36; by Belgium and France: A/AC.252/1998/WP1/Rev.2.

34. Previously cited document A/AC.252.L.3 Add.1.

- (a) Possesses radioactive material or makes or possesses a device:

With the intent to cause death or serious bodily injury; or...to cause substantial damage to property or to the environment;

- (b) Uses in any way radioactive material or a device, or uses or damages a nuclear facility in a manner which releases or risks the release of radioactive material:

With the intent to cause death or serious bodily injury; or...to cause substantial damage to property or to the environment; or...to compel a natural or legal person, an international organisation or a state to do or refrain from doing an act.

- 2. Any person also commits an offence if that person:
 - (a) Threatens, under circumstances which indicate the credibility of the threat, to commit an offence as set forth in paragraph 1 (b)...; or
 - (b) Demands unlawfully and intentionally radioactive material, a device or a nuclear facility by threat...or by use of force.
- 3. Any person also commits an offence if that person attempts to commit an offence as set forth in paragraph 1...
- 4. Any person also commits an offence if that person:
 - (a) Participates as an accomplice in an offence as set forth in paragraph 1, 2 or 3 of the present article; or
 - (b) Organises or directs others to commit an offence as set forth in paragraph 1, 2 or 3...; or
 - (c) ... contributes to the commission of one or more offences...by a group of persons acting with a common purpose; such contribution shall be intentional and either be made with the aim of furthering the general criminal activity or purpose of the group or be made in the knowledge of the intention of the group to commit the offence ... concerned.

By comparison, the CPPNM defines its coverage in Article 2 (1): “The Convention shall apply to nuclear material used for peaceful purposes while in international nuclear transport”. The amendment to Article 2 replaces and supplements this provision by adding certain reservations to it, i.e. “nuclear material used for peaceful purposes while in domestic use, storage and transport”. Paragraph 5 of amended Article 2 excludes from its coverage “nuclear material used or retained for military purposes”.

It should be pointed out that the initial draft of the convention contained a different provision regarding coverage, specifying that “this Convention shall apply...to acts by specific natural persons” and a corresponding definition of “acts of nuclear terrorism”. In this regard, the text ultimately adopted entirely reflects the approach followed by the 1997 and 1998 anti-terrorist conventions mentioned above.

The issue of possible overlapping with the CPPNM before its amended version was adopted had been discussed with respect to the implementation of the new convention in light of the comments provided by the IAEA Secretariat. The Agency had pointed out that when successive treaties were applicable in the same field, the most recent treaty did not necessarily prevail over an earlier one. In this regard, the members of the Ad Hoc Committee were warned of the need to bear in mind, in accordance with Article 30 of the Vienna Convention on the Law of Treaties,³⁵ “the complications arising from overlapping treaty regimes and the desirability of maintaining consistency, stability and certainty in treaty relations”.³⁶

In the document cited above, the IAEA Secretariat had analysed in detail the possible overlapping of the draft convention with the coverage of the CPPNM, emphasising in particular that the latter also covered the criminalisation of certain situations defined as acts committed intentionally that apply to facilities.

Another major difference concerned the issue of the jurisdiction of states, since the convention goes further than the CPPNM in this regard, as it gives the States Parties the right to extend their jurisdiction in certain situations.

A solution then suggested by the IAEA Secretariat was to prepare, instead of this convention, a joint instrument that could cover the CPPNM – amended if necessary – as well as the draft convention as submitted to the Committee, or to include in the text of the convention a reference to the CPPNM as *lex specialis*, i.e. having a more restricted coverage.

The negotiators in favour of the draft, for their part, pointed out that the new convention’s approach was entirely different, particularly since the CPPNM’s coverage was limited to nuclear material used for peaceful purposes and did not cover nuclear material of a military nature, and also because it was necessary to define acts of nuclear terrorism on the basis of the purpose of these acts, which distinguished them from other criminal acts.³⁷ The aim of the convention was to encompass the broadest possible range of targets, forms and manifestations of acts of nuclear terrorism.

In line with this approach, it had been agreed in the Ad Hoc Committee, as mentioned above, to base the convention closely on two recent sectoral anti-terrorist instruments adopted by the General Assembly, i.e. the 1997 International Convention for the Suppression of Terrorist Bombings and the 1999 International Convention for the Suppression of the Financing of Terrorism. The structure and terminology of these two instruments later provided a model for the convention.

Limitations of the coverage of the convention

Article 3 specifies that the application of the convention is limited to offences committed in an international context, i.e. that involve more than one state. Thus, the convention “shall not apply where the offence is committed within a single state, the alleged offender and the victims are nationals of that state, the alleged offender is found in the territory of that state and no other state has a basis...to exercise jurisdiction”.

35. Vienna Convention on the Law of Treaties, 1969, Treaty Series No. 18232.

36. Previously cited document. 33, 34 A/AC.252/1998/L.5.

37. Previously cited document. A/53/37 paragraphs 18-22.

Consequently, the aim of the convention is to ensure that the bodies of the State Party punish a crime recognised as having a transnational character. This means that the acts committed by these persons are considered to be international offences. It is also clear that national courts rather than an international jurisdiction are responsible for detecting the offence, determining the procedures used and imposing punishment under the state's criminal law. The prosecution of offences committed by individuals acting as natural persons remains an exclusively national responsibility. The key feature of the international enforcement of the convention is constituted by the provisions on extradition, since the offences covered are also deemed to be included as extraditable offences in any pre-existing extradition treaty. If there is no existing extradition treaty between States Parties, the convention can be considered as a sufficient legal basis for extradition [Article 13]. The same provisions are contained in Article 11 (2) of the CPPMN.

A number of other specific restrictions to coverage are set forth in Article 4, which stipulates that nothing in the convention shall affect other rights, obligations and responsibilities of states and individuals under international law, in particular the Charter of the United Nations and international humanitarian law.

Furthermore, the convention does not govern the activities of the military forces of a state (term defined in Article 1) during an armed conflict as defined under international humanitarian law, although the following paragraph specifies that the provisions regarding military forces "shall not be interpreted as condoning or making lawful otherwise unlawful acts, or precluding prosecution under other laws". This reference to the law governing armed conflicts is a constant feature of the anti-terrorist instruments adopted recently.³⁸ Separately, in the context of the measures applicable in the event of the seizure of nuclear materials, Article 18 (7) lays down that in the event of any "dissemination" (contamination in nuclear vocabulary?) in connection with an offence set forth in the convention, "nothing in the present article shall affect in any way the rules of international law governing liability for nuclear damage...".

The 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" [Article 4 (4)]. This provision, which was introduced at an early stage by Mexico, reflects the debate within the General Assembly that generally also concerns issues of non-peaceful uses. The annotations and explanations presented by Russia right from the start had underscored the importance of the General Assembly's competence to draft this convention as opposed to the IAEA, given that the IAEA was limited by its Statute to issues concerning the peaceful use of nuclear energy and technology.

It is true that the conventions adopted in the field of nuclear safety under the auspices of the IAEA, like the CPPNM and its amendment, made reference on a very exceptional basis to facilities, waste, fuel, etc. related to non-peaceful activities by countries possessing nuclear weapons, only after laborious discussions, and never explicitly. This issue had already been discussed during the drafting of the 1986 conventions on notification and assistance in case of a nuclear accident, and had been resolved through unilateral declarations made by countries possessing nuclear weapons at the time of the adoption of the Conventions;³⁹ it had been avoided when drafting the 1994 Convention on Nuclear Safety simply because its coverage is limited solely to civilian nuclear plants. However, this issue

38. See *op.cit.*, ILA, page 354, paragraph 21.

39. Convention on Early Notification of a Nuclear Accident and Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, Legal Series 14. IAEA, Vienna, 1987 document available in English. (Article 3 Accident Convention). Declarations concerning the notification of nuclear accidents other than those specified in Article 1. p. 103-105.

reappeared on the agenda of the work of the Joint Convention both for waste and spent fuel, and resulted in a number of provisions being drafted so as to make it possible to include or exclude materials of military or defence-related origin if a state so wished.⁴⁰

The obligations of the States Parties

The States Parties' main obligation set forth in Article 5 is to adopt such measures as may be necessary:

- “a) To establish as criminal offences under its national law the offences set forth in Article 2”;
- “b) To make those offences punishable by appropriate penalties which take into account the grave nature of these offences”.

These two measures essentially lie within the scope of national criminal law, which the Convention amends and supplements. Thus, the state undertakes to ensure that acts defined in an international instrument fall within the scope of its national criminal law and to adopt enforcement measures under its own law.⁴¹

Article 6 adds a clarification that contains some features of a virtual definition of an act of terrorism, specifying that the States Parties are obliged to adopt such measures as necessary to ensure “that criminal acts within the scope of this convention, in particular where they are intended or calculated to provoke a state of terror in the general public or in a group of persons or particular persons, are under no circumstances justifiable by considerations of a political, philosophical, ideological, racial, ethnic, religious or other similar nature and are punished by penalties consistent with their grave nature”.

This principle is reiterated in the provisions on extradition, since Article 15 specifies that “a request for extradition or for mutual legal assistance...may not be refused on the sole ground that it concerns a political offence (...) or an offence inspired by political motives”.

It is interesting to note that Article 11 A of the Amendment to the CPPNM expresses this same principle by referring to “political offences” or “offences inspired by political motives”.

As regards prevention, Article 8 stipulates that the States Parties shall make every effort to adopt appropriate measures to ensure the protection of radioactive material, taking into account “relevant recommendations and functions of the International Atomic Energy Agency”. This provision, which admittedly is deliberately vague from a legal standpoint, refers to non-binding but universally recognised standards for the physical protection of nuclear materials.⁴² However, the CPPNM mentioned in the Preamble is not cited in the context of the obligations of the States Parties

40. Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, IAEA Document: INFCIRC/546 12 January 1998. Article 3. Scope of application.

41. For a brief analysis of the criminal liability of natural persons in international law: See *Droit International Public*, Nguyen Quoc Dinh, Patrick Daillier, Alain Pellet; 4th Edition, Paris 1992, paragraphs 427, 428.

42. IAEA Publication: The Physical Protection of Nuclear Material INFCIRC/225 (and revisions).

so as not to create gaps in the implementation of the convention with regard to those States Parties that are not also parties to the CPPNM.

The States Parties, in accordance with the provisions of Article 7, are also obliged to co-operate with each other in order “to prevent and counter preparations...for the commission...of...offences..., including measures to prohibit in their territories illegal activities” by exchanging “accurate and verified” information and co-ordinating administrative measures. They are also required to co-operate with international organisations, such as the UN and, through its Secretary General, with the IAEA. It adds that “Such authorities and liaison points must be accessible on a continuous basis”, a provision that seems to be somewhat vague.

Protection of confidentiality

In connection with the States Parties’ obligations to co-operate with each other, in particular through the exchange of information, the convention gives an important role to the protection of confidentiality. In this regard, Article 7 allows States Parties to “take appropriate measures consistent with their national law to protect the confidentiality of any information which they receive in confidence...”. The confidentiality of information provided to international organisations must also be maintained.

A complementary provision specifies that the convention does not require States Parties to provide information which they are not permitted to communicate pursuant to national law or which “would jeopardise the security of the state concerned or the physical protection of nuclear material” [Article 7, paragraphs 2 and 3].

National jurisdiction

One of the key issues that this convention had to settle in order to attain its objectives regarding the suppression of acts of terrorism was the definition of clear rules of jurisdiction in order to prevent situations in which states might provide safe havens to alleged offenders and to avoid conflicts of jurisdiction between States Parties. To this end, the convention requires the States Parties to clearly establish their jurisdiction for all the offences covered by the convention.

In accordance with Article 9 b), the jurisdiction established by the States Parties must be territorial (*ratione loci*), i.e. cover offences committed in the territory of the State Party, extended so as to include offences committed on board a vessel flying its flag or an aircraft which is registered under its laws; it must also be personal (*ratione personae*) and “active” jurisdiction, i.e. include an offence committed by a national of the State Party regardless of where it is committed.

Article 9 (2) stipulates that the State Party may also establish its jurisdiction over cases in which an offence is committed against one of its nationals (passive personal jurisdiction); against a facility of the state abroad (such as a diplomatic mission); by a stateless person who has his or her habitual residence in the territory of that state if the offence is committed in an attempt to compel that state to do or abstain from doing any act, or if the offence is committed on board an aircraft which is operated by the government of that state. The state may also claim its jurisdiction if it does not extradite an alleged offender to a State Party that has established its jurisdiction.

To show the importance that the convention attaches to the State Party establishing its jurisdiction in accordance with the provisions of the convention, Article 9 requires State Parties to

notify the Secretary-General of the United Nations upon ratifying the Convention of the jurisdiction that they have established under their national laws and of any changes made subsequently.

Extradition

The principle of international criminal law *aut iudicare aut dedere*, which requires a State Party that does not extradite the alleged perpetrators of any offence defined in a binding international instrument to establish its jurisdiction for prosecuting and judging such persons under its own legislation, is now recognised as being a fundamental principle of international instruments against terrorism. This principle was affirmed by the Security Council in its Resolution 1373 (2001) in which it decided *inter alia* “that all states shall...deny safe haven to those who finance, plan, support, or commit terrorist acts, or provide safe havens.”

In the convention, issues of law and criminal procedure and international co-operation with regard to extradition are addressed fully and precisely. The State Party’s obligations and the procedures applicable from the time that it is notified that an offence has been committed until criminal proceedings are taken or the alleged offender is extradited are described in detail in Articles 10 to 16. Article 17, which deals with a related issue, stipulates the conditions for the transfer to another State Party of persons detained in the course of an investigation.

Beyond the provisions concerning the usual co-operation between states, the convention encourages the broadest possible mutual legal assistance whether on the basis of an existing mutual legal assistance treaty or independently of any such treaty or agreement.

These clauses are analogous to those contained in the two anti-terrorist conventions cited above. In comparison, the CPPNM sets forth the *aut iudicare aut dedere* principle in Article 10, without including provisions regarding its implementation.

Rights of alleged offenders

The convention lays down a number of measures aimed at protecting alleged offenders with respect to extradition.

The obligation to extradite in the event of offences covered by Article 2, which according to the provisions of Article 15 are deemed not to be inspired by political motives (“None of the offences set forth in Article 2 shall be regarded... as a political offence or... as an offence inspired by political motives”) is, however, limited by the provisions of Article 16 authorising States Parties to deny the extradition of an alleged offender if the requested State Party “has substantial grounds for believing that the request for extradition...has been made for the purpose of prosecuting or punishing a person on account of that person’s race, religion, nationality, ethnic origin or political opinion...”.

Furthermore, Article 10 (2) grants the alleged offender detained for the purpose of prosecution or extradition the right to communicate with the state of which he is a national, to be visited by a representative of that state, and to be informed of his rights in this regard. The State Party is required to notify immediately the other States Parties concerned of the fact that the alleged offender is in custody and to invite the International Committee of the Red Cross to communicate with and visit him [Article 10, paragraphs 5 and 6]. In comparison, the Amendment to the CPPNM lays down analogous provisions in Article 11 B.

Measures concerning the seizure of nuclear material

Upon seizing or otherwise taking control of radioactive material or nuclear facilities, States Parties are subject to a series of specific obligations under Article 18: firstly, they must take steps to render harmless the radioactive material in question and to ensure that it is held in accordance with “applicable International Atomic Energy Agency safeguards” [paragraph 1 a] and health and safety standards published by the IAEA. Next, the state is required to return these materials and facilities to the State Party to which they belong or to the State Party from whose territory they were stolen. The convention also provides for the case in which “a State Party is prohibited by national or international law from” possessing radioactive material or devices [Article 18, paragraph 3.1]. In addition, if the materials do not belong to any of the States Parties or if no state is willing to receive these items, a multilateral consultation procedure with the co-operation of the IAEA is provided for [Article 18, paragraphs 3. 2), 4 and 5].

According to the explanations provided by the Russian Federation when the draft convention was presented, this provision is considered as “a *sui generis* element in the machinery for the non-proliferation of nuclear weapons”⁴³ even though the convention does not address these issues. A State Party that either inadvertently or deliberately comes into possession of nuclear weapons or nuclear material following an act of nuclear terrorism will therefore be responsible under international law if it fails to meet its obligation to return these weapons or material.

By comparison, Article 5 (2) of the CPPNM dealing with the “recovery and response operations in the event of any unauthorised removal” contains no such obligation or procedure. For the purposes of returning nuclear materials in the event of such removal, the CPPNM only provides for a mechanism of information, consultation and co-operation between designated services or through diplomatic and mutual assistance channels in order to ensure the return of stolen or missing material.

The role of the IAEA

The convention does not contain any general reference to the IAEA and does not give it a substantive role. However, there are a certain number of individual references that relate to the technical functions and recommendations of the IAEA with regard to the physical protection of material [Article 8] and the applicable safeguards and the health and safety standards published by the IAEA [Article 18, paragraph 1 c] (see above). These provisions are included in the States Parties’ obligations with respect to the protection of radioactive material and the health and safety standards published by the Agency.

In addition, in the event of a seizure of radioactive material or devices or nuclear facilities, the States Parties are required to notify the Director General of the IAEA “of the manner in which such an item was disposed of or retained”. The Director General must then transmit this information to the other States Parties [Article 18(6)]. While in possession of “nuclear material”, States Parties are required to hold it in a manner that is in accordance with the “applicable IAEA safeguards”. In such cases, they may request the assistance and co-operation of the IAEA [Article 18(5)].

As the depositary of the convention is the Secretary-General of the United Nations, it is his responsibility to notify the IAEA of the names and competent liaison points responsible for co-operation between the States Parties [Article 7(4)]. It is also through the Secretary-General that the

43. Previously cited document A/AC.252/L/Add.1, paragraphs 41 and 42.

States Parties conduct consultations with one another as necessary in order to ensure effective implementation of the convention [Article 20].

Final provisions

Settlement of disputes

Article 23 lays down the provisions applicable to the settlement of disputes between States Parties involving the interpretation or application of the convention. It specifies the usual stages of negotiation, arbitration and referral to the International Court of Justice and the corresponding right of States Parties to lodge a standard reservation at the time of accession to the convention by declaring that they are not bound by the aforementioned provisions regarding the procedure for dispute settlement through the courts or arbitrations.

This article is a somewhat simplified version of Article 17 (1) of the CPPNM.

Signature and Ratification

The convention is subject to ratification, acceptance or approval. It is open to the accession of any state from 14 September 2005 until 31 December 2006. It does not provide for accession by an international organisation, unlike the CPPNM which is open to the signature and accession of international and regional organisations “of an integration or other nature” – a broader concept than the usual wording used to designate the European Union. Euratom is a party to the CPPNM. The question of the possible accession of international organisations was raised with the IAEA Secretariat, which replied that the Agency was not normally a contracting party to international instruments.⁴⁴

Entry into force

The provisions of Article 25 repeat verbatim Article 19 of the CPPNM requiring ratification by 22 states for the convention to enter into force (21 states for the CPPNM).

Amendments

The procedure specified for proposing and adopting amendments [Article 26] is similar to the one contained in the CPPNM: the proposal is submitted to the depositary, who then circulates it to all States Parties and convenes a conference to consider the proposed amendment not sooner than three months after the invitations are issued (30 days for the CPPNM).

The convention urges the conference to make every effort to ensure that proposed amendments are adopted by consensus. A two-thirds majority of all States Parties is required for adoption if a consensus cannot be reached.

44. Previously cited document A/53/37 paragraph 67.

Denunciation

The convention may be denounced by written notification to the depositary. The notification takes effect one year following the date on which it is received by the depositary (80 days for the CPPNM).

IV. A new frontier of international nuclear law or a specific instrument of international criminal law?

This convention was prepared within the United Nations by an Ad Hoc Committee set up by the General Assembly to create a number of legal instruments for the prevention, suppression and elimination of terrorism in all its forms and manifestations. It is one of a series of closely related international instruments negotiated and adopted by the same bodies using the same procedures by representatives of the international community as a whole.

Although the instrument most closely related to the convention in terms of substance – the CPPNM – was discussed from the outset of the preparatory work and throughout the negotiations, the negotiators' main stated objective was to agree on the broadest possible coverage in order to fill the gaps that negotiators saw in the CPPNM with respect to the limitations of its coverage and the enforcement measures that it provides, regardless of amendments that might later be adopted in a revised version of the CPPNM. The work was aimed at producing a document that was as different possible from that instrument.

The other international instruments established directly or indirectly under the same mandate of the General Assembly or the Security Council, which have been designated as being model texts constituting the corpus of the 12 conventions on terrorism continually referred to and described as *acquis*,⁴⁵ are unrelated to international nuclear law.

Furthermore, with regard to the convention's content, no "soft law" text – pre-existing code, provision or technical standard – was available to guide the negotiators as had always been the case previously for conventions in the nuclear safety and security fields prepared under the auspices of the IAEA, and especially for the CPPNM, published since 1975 under the reference INFCIRC/225/revISED.

The only technical data and legal opinions in the codified nuclear field available to the negotiators in the Ad Hoc Committee were a few pages of definitions and explanations of terminology provided by the IAEA Secretariat in its preliminary comments.

Beyond these general arguments, the Ad Hoc Committee's mandate was, as its chairman pointed out at the end of the work, "to draft a technical, legal, criminal law instrument that would facilitate police and judicial co-operation in matters of extradition and mutual assistance" adding that "this Ad Hoc Committee must elaborate a text that fulfils the requirements of criminal law – legal precision, certainty and fair labelling of the criminal conduct..."⁴⁶

The method of international co-operation specified by the convention – in which priority is necessarily given to legal and national security mechanisms – is not so much a new chapter in nuclear

45. Previously cited document A/60/37 paragraph 33, page 32.

46. Previously cited document A/60/37 paragraph 32, page 32.

law as a new stage in the evolution of international criminal law enabling states, both jointly and individually, to improve the effectiveness of anti-terrorist measures. The instrument's focus is upon criminal acts, offences and their suppression by States Parties since this convention is an enforcement instrument.⁴⁷ This means that national nuclear regulatory, safety and security authorities are not initially called upon to intervene.

However, the fact remains that the only field targeted by the convention is what is otherwise defined as being the field of nuclear activities, facilities and materials, wherever they are found and whatever their use, i.e. which also includes civilian and military uses in the broad sense. This means that in practice, it is necessary and even inevitable for states to co-operate closely in terms of the various fields of intervention of nuclear law.

The limited number of accessions required for the convention to enter into force and the fact that there are no additional special conditions, for example concerning the number and status of states active in the nuclear field, such as the requirement that they have at least one nuclear installation as is specified in Article 31 (1) of the Convention on Nuclear Safety, might make it possible for this instrument to enter into force relatively rapidly in comparison with the Amendment to the CPPNM, for example. Under Article 20 (2) of the CPPNM, for each individual state (Party to the CPPNM) having deposited its instrument of ratification, the amendment only enters into force thirty days after the date on which two-thirds of the States Parties have deposited their instrument of accession. It is likely that this will lead to a situation in which there are simultaneously States Parties that have acceded to the convention, States Parties to the 1980 CPPNM and states that have also acceded to the amendment.

Consequently, there is reason to fear that the implementation of the convention may mean that the legal bodies of the states that are Parties to both instruments will encounter serious problems of overlapping with the 1980 CPPNM and more especially with amendment, in particular regarding any amendments to their domestic criminal law. The IAEA Secretariat voiced this concern at the outset of the preparatory work.

The issue of the international normative instruments necessary to combat terrorism has become a constantly recurring item on the agenda of all international bodies. These instruments must be negotiated globally despite the specificity of the sectors concerned. It is therefore not surprising that concepts or measures adopted as relevant and useful in one context are copied or emulated in another. This explains why the preparatory work on the convention already seems to have influenced certain proposals made by contracting Parties to the CPPNM at the diplomatic conference on the adoption of its amendment. Certain new provisions that also involve criminal law, in particular with regard to extradition, appear to have been directly based on the convention.

Monitoring

The negotiating states did not provide for the establishment within the Secretariat or outside the United Nations of a specific monitoring mechanism⁴⁸ for the convention, the implementation of which is therefore the exclusive responsibility of the States Parties. As stated in Article 20: "The States Parties shall conduct consultations with one another directly or through the Secretary-General of the

47. Previously cited document A/59/37 Summary by the Co-ordinator, page 14.

48. Informal note by the UN Secretariat dated 15-06-2005 published by the Information Department (in English only) entitled "Guidance on the Convention for the suppression of acts of nuclear terrorism".

United Nations, with the assistance of international organisations as necessary, to ensure effective implementation of this Convention”.

The formal obligation of the States Parties to notify the Secretary-General at the time of their accession to the convention of the relevant provisions of their domestic legislation regarding jurisdiction and their (optional) right to ask for his advice or request the assistance of the IAEA if they are in possession of radioactive materials or devices according to Article 18 (5), do not in themselves constitute a multilateral institutional mechanism.

The General Conference of the IAEA at its 49th Session (September 2005) simply took note of the Resolution of the UN General Assembly by which it adopted the convention.⁴⁹

Once it has entered into force and been ratified by a significant number of states, however, it is possible that because it is grounded in binding national law, the convention, whether or not it is part of a coherent body of international nuclear law, might exercise a considerable influence on national nuclear law, in particular with regard to the criminalisation of offences relating to nuclear activities and materials, but also with respect to transport law, methods of surveillance and protection of nuclear facilities, sites and activities and bilateral and international co-operation between the state bodies responsible in this field.

In any case, the strengthening of the international legal regime for combating the various manifestations of terrorism and especially the threat of nuclear terrorism is now a priority for states. This is a priority to which intergovernmental organisations must respond in their specific fields of responsibility in order to maintain a cohesive multilateral effort in the nuclear field and to help states to develop clear and effective standards that will contribute to the progress of the rule of law.

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The International Regime on the Physical Protection of Nuclear Material and the Amendment to the Convention on the Physical Protection of Nuclear Material

by Maria de Lourdes Vez Carmona*

A. Abstract

1. On 8 July 2005, States Parties to the Convention on the Physical Protection of Nuclear Material (the “convention”), adopted by consensus an “amendment” to the convention.
2. The amendment to the convention represents the culmination of work that had been progressing for a number of years at the International Atomic Energy Agency (IAEA). It is a major achievement – another milestone in international efforts to improve nuclear security and reduce the vulnerability of nuclear material and nuclear facilities to crime and terrorism.
3. This paper provides an overview of the instruments that comprise the physical protection regime, and gives account of the scope of the present convention and the efforts to strengthen it. It also identifies some of the significant changes introduced by the amendment to the convention.

B. The Physical Protection Regime

4. Physical protection against the theft or unauthorised use of nuclear material and against the sabotage of nuclear material and facilities by individuals or groups of persons has become a matter of increased national and international concern. Although the responsibility for establishing and operating an appropriate physical protection regime for nuclear material and facilities under the jurisdiction of a state rests entirely with the government of that state, it should not be a matter of indifference to other states whether and to what extent that responsibility is fulfilled. In fact, the effectiveness of physical protection measures in one state also depends on the taking by other states of adequate measures to deter or defeat hostile actions against nuclear facilities and nuclear material. International cooperation in this field has therefore become more and more relevant.

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5. In simple terms, the “physical protection” of nuclear material can be described as a set of legal, administrative and technical measures, including physical barriers, to “physically protect” such material.

6. The present convention and its amendment is a part of a set of rules – the overall objective of which is to have a strong physical protection regime, one in which security is everywhere and at an acceptable level. This regime also includes basic guidelines for the establishment of national physical protection systems which were developed within the IAEA, in particular, the Physical Protection of Nuclear Material and Nuclear Facilities,¹ and the Physical Protection Objectives and Fundamental Principles.²

(i) The Physical Protection of Nuclear Material and Nuclear Facilities

7. IAEA document “The Physical Protection of Nuclear Material and Nuclear Facilities”, originated as “Recommendations for the Physical Protection of Nuclear Material” prepared by a panel of experts convened by the Director General and published by the IAEA in 1972.³

8. The latest revision of this document [INFCIRC/225/Rev.4(Corrected)] reflects the recommendations of national experts to improve the structure and clarity of the document and to take account of improved technology and international and national practices.⁴ The recommendations included in INFCIRC/225/Rev.4(Corrected) are intended to apply to the physical protection of nuclear material in use, storage and transport, whether domestic or international and whether peaceful or military.

9. The document provides recommendations on the elements of a state’s system of physical protection of nuclear material and nuclear facilities, and on the requirement for a state’s legislation in this field. It also specifies requirements for physical protection against unauthorised removal of nuclear material in use and storage and against sabotage of nuclear facilities and nuclear material during use and storage and of nuclear material during transport. In addition, it includes a table of categorisation of nuclear materials for determining the appropriate level of physical protection measures.

10. While these recommendations are provided for consideration by the competent authorities in states and as such are not mandatory, an undertaking relating to physical protection has been included in the IAEA Project and Supply Agreements and in the Revised Supplementary Agreement for the Provision of Technical Assistance by the IAEA, since the early 1980s. Through this mechanism, states are obliged to take all measures necessary for the physical protection of nuclear material, equipment and materials relating directly to the assistance provided by or through the IAEA.

1. IAEA document INFCIRC/225/Rev. 4(Corrected).

2. IAEA document GC(45)/INF/14.

3. These recommendations were revised by a group of experts in cooperation with the IAEA Secretariat, and the revised version was published in 1975 in the INFCIRC series. The document was subsequently revised four times in 1977, 1989, 1993 and 1997.

4. In particular, the revised document includes a chapter which provides specific recommendations related to sabotage of nuclear facilities and nuclear material. As a result of this addition, the title was changed to “The Physical Protection of Nuclear Material and Nuclear Facilities”.

(ii) *The Physical Protection Objectives and Fundamental Principles*

11. The Physical Protection Objectives and Fundamental Principles (the Objectives and Fundamental Principles) were prepared by the IAEA Secretariat with the assistance of Member States' physical protection experts pursuant to a recommendation of the Working Group of the "Informal Open-Ended Expert Meeting to Discuss Whether there is a Need to Revise the Convention [...]" convened by the Director General in 1999.⁵

12. In September 2001, the IAEA endorsed these "Physical Protection Objectives and Fundamental Principles" for publication as a "Security Fundamentals" document, "as a step towards strengthening the physical protection regime, it being understood that their adoption would not lead to diminished interest on the part of Member States in becoming parties to the convention [...] and that they were not a substitute for the convention or for the recommendations in [the aforementioned IAEA] document INFCIRC/225/Rev.4 (Corrected)".⁶

13. The Objectives and Fundamental Principles are based on the recommendations, concepts and terminology contained in the aforementioned IAEA document INFCIRC/225/Rev.4(Corrected). The Objectives and Fundamental Principles are intended for nuclear material in use and storage, and during transport, and for nuclear facilities using or storing such materials. The Objectives and Principles provide the basic elements that states need to take into account when developing their national regimes for preventing the theft, misuse or sabotage of nuclear material and facilities.

14. As concerns the relationship between the convention and the Objectives and Fundamental Principles, it is noted in a later section of this paper that the Final Report of the Working Group recommended that "the well-defined amendment" of the convention should cover, *inter alia*, the content of these Objectives and Fundamental Principles.

(iii) *The Convention on the Physical Protection of Nuclear Material*

15. For some considerable time there was growing recognition of the need for co-operation between states to ensure adequate physical protection of potentially hazardous nuclear material. Even though the main responsibility in this area rested with the states concerned, it was suggested that it would be necessary for there to be an appropriate international legal instrument regulating state co-operation in this area.⁷

5. The work of the Working Group and the Expert Meeting is described in a later section of this paper.

6. See IAEA document GOV/OR.1033, paras. 157-162.

7. This need was, *inter alia*, reflected in the declaration of the Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons in May 1975, which called upon all States engaging in peaceful nuclear activities to enter into such international agreements and arrangements as may be necessary to ensure the proper protection of nuclear material. Further recognition was also given in the Resolution of the IAEA General Conference in September 1975 (GC/XIX/RES/328), which called upon IAEA Member States and the Director General to consider ways and means of facilitating international co-operation in dealing further with problems of physical protection of nuclear facilities and materials which are common to Member States. Also, IAEA document "The Physical Protection of Nuclear Material" (INFCIRC/225) and the report of an Advisory Group on Physical Protection of Nuclear Material (which met in February 1977) recommended the conclusion of international agreements or conventions on cooperation among states in particular for the protection of nuclear material in international transport. It invited the Director General to consider, in consultation with Member States as

16. In light of the growing importance of the subject and the attention being paid to it, the Director General of the IAEA circulated for comment to all IAEA Member States, in June 1977, a draft “Convention on Physical Protection of Nuclear Facilities, Material and Transports”, which had been prepared by the United States of America. This draft convention and the comments from 16 Member States were examined by governmental representatives convened at IAEA Headquarters, Vienna from 31 October to 10 November 1977 to consider the preparation of a convention on the physical protection of nuclear material.

17. Following two years of negotiations in which representatives of 58 states and the European Atomic Energy Community participated, the text of the convention was adopted on 26 October 1979, and opened for signature at Vienna and New York on 3 March 1980.⁸ The convention entered into force on 8 February 1987.⁹

18. The present convention is the only international legally binding instrument by which states make specific undertakings for protecting nuclear material.

19. Strictly speaking, the convention has a threefold scope of application: the physical protection of nuclear material during international transport; the criminalisation of offences and international co-operation and information exchange.

(a) *Physical Protection of Nuclear Material during International Transport*

20. The first area covered by the convention refers to states’ commitments to protect nuclear material (e.g. plutonium, ²³⁵U) during international transport (and during storage incidental to such transport).¹⁰ For this purpose, the convention defines three categories of nuclear material,¹¹ according to which different levels of protection apply.¹² States commit themselves not to undertake or authorise the undertaking of such international transport unless assurances are provided that nuclear material will be protected at the required levels.¹³

21. Nuclear material in transit from one part of a States Parties’ territory to another, when passing through international waters or airspace, should also be protected at the prescribed levels.¹⁴ For example, if a state wishes to carry a consignment of nuclear material intended to go beyond its own territory, the state would be required to ensure that such material would be “physically protected”, at the levels described by the convention, from the facility of the shipper in that particular state, until it

appropriate, the initiation of a process for the preparation of an international convention on the physical protection of nuclear materials during international transport.

8. The text of the convention was transmitted to the 23rd (1979) regular session of the IAEA General Conference, pursuant to paragraph 11 of the Final Act, as document INFCIRC/274. The text of the convention is now in INFCIRC/274/Rev.1, dated May 1980.

9. As of 2 September 2005 there were 115 States Parties (including Euratom) and 45 Signatories to the convention.

10. See Article 3 of the convention.

11. See Annex II of the convention.

12. See Annex I of the convention.

13. See paragraphs 1 and 2 of Article 4 of the convention.

14. See paragraph 4 of Article 4 of the convention.

arrives at a facility of the recipient in the state of ultimate destination. The different levels of protection are described in Annex I of the convention and refer to specific precautions, including constant surveillance by escorts and close communication with appropriate “response forces” and they are ensured through making prior arrangements between sender and receiver.

(b) Criminalisation of Offences

22. The second area covered by the convention refers to states’ undertakings to make the intentional commission of certain acts (e.g. theft or robbery of nuclear material, threat to use nuclear material to cause death and other ancillary offences such as attempts and participation in such acts) punishable offences under their national law,¹⁵ to establish jurisdiction¹⁶ over such offences and to detain¹⁷ alleged offenders for the purpose of prosecution¹⁸ or extradition. In this context, States Parties undertake to include those offences as extraditable offences in every future extradition treaty to be concluded between them. However in the absence of such an extradition treaty, the convention may be considered as the legal basis for extradition in respect of those offences.¹⁹

23. It should be noted that these “crime-related” provisions also apply to nuclear material used for peaceful purposes while in domestic use, storage and transport.

(c) International co-operation and information exchange

24. As a third subject area, the convention also promotes international co-operation. In particular, States Parties undertake to co-operate in the recovery and protection of stolen nuclear material, by sharing information on nuclear material in accordance with their national laws and in ensuring the return of nuclear material stolen or missing as consequence of unlawful taking.²⁰

25. States Parties also undertake to identify and make known to each other, directly or through the IAEA, their central authority and point of contact having responsibility for physical protection of nuclear material and for coordinating recovery and response operations in the event of unauthorised removal, use or alteration of nuclear material or in the event of a credible threat thereof.²¹

26. States Parties also commit themselves to co-operate and consult with each other, directly or through intergovernmental organisations, with a view to obtaining guidance on aspects related to the design, maintenance and improvement of systems of physical protection of nuclear material in international transport.

27. Finally, States Parties undertake to afford one another the greatest measure of assistance in connection with criminal proceedings brought in respect of the relevant offences, including the supply

15 See Article 7 of the convention.

16 See Article 8 of the convention.

17 See Article 9 of the convention.

18 See Article 10 of the convention.

19 See paragraphs 1 and 2 of Article 11 of the convention.

20 See Article 5 of the convention.

21 See paragraph 1 of Article 5 of the convention.

of evidence at their disposal necessary for the proceedings. In all such cases, however, the law of the state requested to provide assistance shall apply.²²

(d) Review and amendment of the convention

28. Lastly, the convention has two provisions that deal with its review and amendment: Articles 16 and 20, respectively. Concerning the review of the convention pursuant to Article 16, a Review Conference five years after its entry into force was held at IAEA Headquarters, Vienna from 29 September to 1 October 1992. Thirty-five of the States Parties at that time attended this Review Conference.

29. The 1992 Review Conference unanimously expressed its full support for the convention and urged all states to take action to become a party to the convention. The Conference reaffirmed that the convention provided a sound basis for the physical protection of the transport of nuclear material, the recovery and return of any stolen material, and the application of sanctions against any person who may commit criminal acts involving nuclear material. It concluded at that time, however, that no changes to the convention were needed.

C. Efforts to strengthen the convention

30. Nonetheless, in the years following the 1992 Review Conference, questions relating to the adequacy of the convention began to arise. Notably, as mentioned above, there was no commitment by States Parties to protect nuclear material in domestic use, storage and transport. In addition, there was no commitment regarding the protection of nuclear material and nuclear facilities against sabotage.

(i) Informal Open-ended Expert Meeting to discuss whether there is a need to revise the convention

31. In light of comments made during the meetings of the IAEA Board of Governors and taking into account the recommendations in 1999 of the Senior Expert Group for the Review of the IAEA's Programme of Activities, the Director General convened, from 15 to 19 November 1999, an "Informal Open-ended Expert Meeting to discuss whether there is a need to revise the convention [...]" (the Expert Meeting). The Director General requested these experts to provide their views on the basic question of whether there was a need to revise the convention.

32. The name of the Expert Meeting reflects the fact that at that time not all states were convinced of this "need". Therefore it was agreed that before embarking in any amendment process as foreseen in Article 20 of the convention, the question as to "whether there was a need to revise the convention" required answering.

33. To facilitate its work, the Expert Meeting decided to establish an open-ended Working Group to examine all relevant issues for reaching a conclusion on the matter. This Working Group took fifteen months and four meetings²³ to submit in January 2001, its Final Report²⁴ to the Expert Meeting. Its

22. See Article 13 of the convention.

23. The first meeting: 22-24 February 2000; the second meeting 26-30 June 2000; the third meeting 20-24 November 2000; and the fourth meeting 29 January-2 February 2001.

Final Report identified several recommendations intended “to promote further the effective implementation and improvement of physical protection worldwide.”²⁵

34. Following the submission of the Working Groups’ Final Report, the Expert Meeting at its second meeting held from 21 to 23 May 2001, adopted its own Final Report,²⁶ in which it concluded that there was “a clear need to strengthen the international physical protection regime” and that a spectrum of measures should be employed – including the drafting of a well-defined amendment to strengthen the convention, to be reviewed by States Parties with a view to determining whether it should be submitted to a Conference to consider the amendment, in accordance with Article 20 of the convention.

35. In recommending that a “well-defined amendment” be prepared by a group of legal and technical experts, the Final Report of the Expert Meeting indicated the subjects that should be covered. This list included:

- the extension of its scope to cover, in addition to nuclear material in international nuclear transport, domestic use, transport and storage of nuclear materials, as well as protection of nuclear material and facilities from sabotage;
- the importance of national responsibility for physical protection;
- the importance of protection of confidential information;
- (as mentioned earlier) the incorporation of the Physical Protection Objectives and Fundamental Principles; and
- relevant definitions.

36. At the same time, the Expert Meeting also indicated the subjects that should clearly not be covered. This list included:

- a requirement to submit reports to the international community on the implementation of physical protection;
- a peer review mechanism;²⁷

24. The Final Report of the Working Group was circulated under a Note Verbale by the IAEA Secretariat to all States Parties of the convention and to Member States in March 2001.

25. The Working Group made the following four recommendations to the Expert Meeting: A. Strengthen the Convention on the Physical Protection of Nuclear Material; B. Prepare a resolution by the General Conference; C. Endorse Security Fundamentals; and D. Improve IAEA Programmes. It should be noted that while there was support in the Working Group for each recommendation, there was not universal commitment to each recommendation.

26. The Final Report of the Expert Meeting was circulated by the Secretariat as an attachment to a Note, dated 3 August 2001 (Secretariat 2001/Note 18) to all States Parties to the convention and to Member States of the IAEA.

27. As provided, for example, under the Convention on Nuclear Safety (see IAEA document INFCIRC/449, 5 July 1994) and the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (see IAEA document INFCIRC/546, 24 December 1997).

- a mandatory application of INFCIRC/225 e.g. through direct reference or through “due consideration”;
- a mandatory international oversight of physical protection measures;
- nuclear material and nuclear facilities for military use.

37. By preparing a “well-defined amendment” before the formal amendment process as mandated by Article 20 of the convention, States Parties aimed at limiting as much as possible the introduction of “undesirable” subjects at a Conference to consider the amendment.

(ii) Open-ended Group of Legal and Technical Experts to prepare a draft amendment to the convention (the Group)

38. On 6 September 2001, only three days before 9/11, in response to the recommendation of the Expert Meeting, the IAEA Director General formally convened an Open-ended Group of Legal and Technical Experts to prepare a draft amendment aimed at strengthening the convention (the Group).²⁸

39. This Group held six meetings in total and took two years and three months to conclude its work. At its final meeting, held on 14 March 2003, the Group adopted by consensus its Final Report (which included three attachments)²⁹ and submitted it to the IAEA Director General. With the submission of that Final Report, the Group completed the task for which it was established.

40. In light of the aforementioned subjects that the Group should and should not cover in the drafting of a “well-defined amendment” to the convention, the Group was able to agree on a significant number of possible amendments. In particular, the Group agreed on the following possible amendments:

- the extension of the scope of the convention to cover the physical protection of nuclear facilities, and a consequential amendment of the title;
- a new article setting out the purposes of the convention;
- two definitions for “sabotage” and “nuclear facilities”;
- provisions to reflect the extension of scope, the importance of national responsibility and the exclusion of nuclear material and nuclear facilities for military use;
- a new article to cover domestic use, storage and transport and the protection of nuclear material and nuclear facilities from sabotage and also to cover the Physical Protection Objectives and Fundamental Principles;

28. The first meeting was held 3-7 December 2001. Subsequent meetings were held 11-15 March 2002, 17-21 June 2002, 2-6 Sept 2002, 4-8 November 2002 and 3-14 March 2003.

29. Attachment 1 set out possible amendments to be made to the convention. Attachment 2 reproduced the Opening statement by the Director General at the first meeting of the Group, on 3 December 2001. Attachment 3 comprised the Group’s Working Papers.

- a new paragraph to cover cooperation between states and also the IAEA in the case of a credible threat of sabotage of nuclear material or a nuclear facility, or in case of sabotage thereof;
- provisions on strengthening the protection of information received in confidence;
- new offences relating to sabotage, contributing to and organising or directing the commission of an offence and nuclear smuggling; and
- a new article relating to transfer of nuclear technology for peaceful purposes to strengthen physical protection of nuclear material and nuclear facilities.

41. However, the text prepared by the Group also contained in brackets a number of clauses on which the Group was unable to reach agreement. Primarily, there were three such issues:

- The first issue was one of the most debated and controversial. It concerned the explicit exclusion of activities of states' military forces in the conduct of official duties. Some experts were of the view that these activities should not be governed by the convention, since they were governed by other rules of international law and that the exclusion was in effect only a choice of law provision. Other experts did not want an explicit exclusion as this might leave gaps in the applicability of the convention as amended where such activities were not covered by other rules of international law. During the course of discussions on this issue two texts related to the activities of military forces were developed as options, complemented by a third option that no such related text should be included. All three options appeared bracketed in Attachment 1 to the Final Report. As noted later, it was decided at the Amendment Conference to include an exclusion provision.
- The second issue concerned the introduction into the text of the Fundamental Principles. Given the central importance of Fundamental Principles to the strengthening of the convention and to the task of the Group, a vast amount of effort was spent in seeking consensus on the precise way to cover these principles. The Group agreed that the Fundamental Principles should be kept together as a whole and their language should not be modified. However, concerning the introduction of the Fundamental Principles, two options remained: the first option, which received extensive support, involved a legal commitment to apply the Fundamental Principles, insofar as is reasonable and practicable; the second option, which received less support, introduced a legal commitment to be guided by the Fundamental Principles. This issue was resolved at the Amendment Conference by choosing the first option.
- The third issue concerned whether or not to include, in the relevant offences, a reference to "substantial damage to the environment". As noted later, it was agreed to extend the relevant offences to this type of damage.

42. Finally, the Final Report of the Group also identified a number of areas and proposals which were either objected to or not examined by the Group and consequently were not reflected in the proposed amendments.³⁰

43. On 16 June 2003, the IAEA Director General circulated the Final Report of the Group to all States Parties to the convention for their consideration as to whether to initiate the procedure for the convening of an Amendment Conference in accordance with Article 20 of the convention.

(iii) Amendments proposed by the government of Austria and 24 co-sponsoring states

44. The Final Report of the Group, however, was just one of a number of steps towards a possible amendment to the convention. According to Article 20 paragraph 1 of the convention, to trigger the amendment process a State Party is required to propose amendments to the convention. The proposed amendments then need to be submitted to the IAEA Director General who must circulate them immediately to all States Parties. Only when a majority of States Parties request the Director General to convene a conference to consider the proposed amendments is the Director General required to invite all States Parties to attend such a conference which must begin not earlier than 30 days after the invitations are issued.³¹

30. In particular, these concerned:

- A proposal by Mexico relating to extradition. The objectives of this proposal were, *inter alia*, to update the provisions of the convention on issues pertaining to legal assistance and to achieve an adequate coordination between the convention and the international legal instruments to combat terrorism (i.e. the International Convention for the Suppression of Terrorist Bombings and the International Convention for the Suppression of the Financing of Terrorism). The main part of this proposal was not objected to in substance, but its necessity was questioned. Therefore, the Group decided that further analysis was required. In the course of analysis, other proposals on extradition were made to include in the text provisions relating to political offences or offences inspired by political motives, and non-discrimination. Due to a lack of consensus, no decision was made in this regard.
- A proposal to amend the provision concerning the review conference of the convention. The Group felt that such a review conference should explicitly exclude peer review mechanisms and a requirement to submit national reports to the international community on the implementation of physical protection. The Group agreed that nothing in the text required or implied peer review mechanisms or national reporting. A view was also expressed that the relevant provision of the convention was sufficient.
- A proposal to include an additional article on amendments to the convention by simplified procedure was not examined by the Group.
- A proposal to add language to clarify the scope of the physical protection regime of States Parties regarding nuclear material in international nuclear transport and to explain how the physical protection regime would relate to the existing convention provisions on international nuclear transport.

31. Article 20, paragraph 1 of the convention reads: “Without prejudice to Article 16 a State Party may propose amendments to this convention. The proposed amendment shall be submitted to the depositary who shall circulate it immediately to all States Parties. If a majority of States Parties request the depositary to convene a conference to consider the proposed amendments, the depositary shall invite all States Parties to attend such a conference to begin not sooner than thirty days after the invitations are

45. Further consultations were held among a number of States Parties on the outstanding issues as identified in the Final Report of the Group (see paragraph 41 above), in order to select which of the options to include in a proposal to the Director General for circulation and to trigger the amendment process. As a result of these consultations, some states finally agreed on a text.

46. Essentially, this text reflected the inclusion (and non-inclusion) of the major subjects recommended by the Expert Meeting in 2001 (see paragraphs 36 and 37 of this paper), as incorporated into the “well-defined amendment” prepared by the Group in 2003. In addition, it also included text concerning the aforementioned outstanding issues (for example, the introduction of the Fundamental Principles), in a form which it was felt that consensus could easily be reached amongst States Parties.

47. On 1 June 2004, the Director General of the IAEA received a letter from the Austrian Federal Minister of Foreign Affairs, proposing on behalf of the government of Austria and of the governments of Australia, Bulgaria, Canada, Croatia, Czech Republic, Denmark, Finland, France, Greece, Hungary, Ireland, Italy, Japan, Lithuania, Luxembourg, Norway, Poland, Portugal, Sweden, Switzerland, Turkey, Ukraine, United Kingdom of Great Britain and Northern Ireland and the United States of America, amendments to the convention.

48. Pursuant to this letter, the Director General circulated to all States Parties on 5 July 2004, the proposed amendments. At the same time, the Director General requested confirmation as to whether he should as depositary, call for a conference to consider these proposed amendments.

49. By 19 January 2005 the Director General had received requests to convene such a conference from 55 States Parties, which represented the majority of States Parties to the convention. Accordingly, on 3 February 2005, the Director General, pursuant to paragraph 1 of Article 20 of the convention, invited all States Parties to participate in such a Conference.

D. The Conference to consider proposed amendments to the convention and the amendment to the convention

50. The Conference to consider and adopt proposed amendments to the convention (the Amendment Conference) was held at IAEA Headquarters, Vienna, from 4 to 8 July 2005.³² Mr. D.B. Waller, Acting Director General of the Agency, opened the Conference and served as the Secretary-General of the Conference, as provided for in the Rules of Procedure³³ of the Conference. The Conference elected Prof. A. J. Baer (Switzerland) as president.³⁴

issued. Any amendment adopted at the conference by a two-thirds majority of all States Parties shall be promptly circulated by the depositary to all States Parties.”

32. A Preparatory Meeting for the Amendment Conference, attended by 58 Parties to the convention (including Euratom), was held from 4 to 7 April 2005. As reflected in the Agenda of the Meeting, some of the specific issues to be discussed during the meeting included several which arose from the draft Provisional Rules of Procedure of the Amendment Conference; for example the rules on the officers and the observers at the Conference and the rules concerning the quorum of, and voting, by Parties to the convention at, the Conference. The Preparatory Meeting also provided an opportunity for informal and non-binding consultations between States Parties to resolve further outstanding issues.

33. See CPPNM/AC/2 (4 July 2005).

34. The Conference also elected Mr. R.J.K. Stratford (United States of America), Ms. P. Espinosa-Cantellano (Mexico), Mr. P. Nieuwenhuys (Belgium), Mr. A.A. Matveev (Russian Federation), Ms. T. Feroukhi

51. Eighty-eight States Parties and the European Atomic Energy Community (Euratom) participated in the Conference.³⁵ Eighteen States not Party and three intergovernmental organisations participated as observers.³⁶

52. While there were still some open issues at the start of the Amendment Conference, the Conference adopted by consensus an amendment to the convention on 8 July 2005. Delegates of 81 States Parties signed the Final Act of the Conference.³⁷

53. Taking up from the threefold scope of application of the present convention, the amendment strengthens the international physical protection regime in the following main areas:

(i) Objectives of the convention

54. The objectives of the amended convention are now “to achieve and maintain worldwide effective physical protection of nuclear material used for peaceful purposes and of nuclear facilities used for peaceful purposes; to prevent and combat offences relating to such material and facilities worldwide; as well as to facilitate co-operation among States Parties to those ends.”

(ii) Effective physical protection of nuclear material and of nuclear facilities used for peaceful purposes

55. As provided for in the “well-defined amendment” prepared in 2003 by the Group and as foreseen in the recommendations of the Expert Meeting in 2001, the amendment extends the scope of the convention to cover the physical protection of nuclear material in domestic use, storage and transport and of nuclear facilities.³⁸

(Algeria), Mr. S.K. Sharma (India), Mr. T.A. Samodra Sriwidjaja (Indonesia) and Mr. Wu Hailong (China) as Vice-Presidents of the Conference.

35. Albania, Algeria, Argentina, Armenia, Australia, Austria, Azerbaijan, Belarus, Belgium, Bolivia, Bosnia and Herzegovina, Brazil, Bulgaria, Burkina Faso, Cameroon, Canada, Chile, China, Colombia, Croatia, Cuba, Cyprus, Czech Republic, Denmark, Ecuador, Estonia, Finland, France, Germany, Greece, Guatemala, Honduras, Hungary, Iceland, India, Indonesia, Ireland, Israel, Italy, Japan, Kenya, Korea Republic of, Kuwait, Latvia, Lebanon, Libyan Arab Jamahiriya, Liechtenstein, Lithuania, Luxembourg, Madagascar, Mali, Malta, Mexico, Monaco, Mongolia, Morocco, Mozambique, Namibia, Netherlands, New Zealand, Nicaragua, Norway, Oman, Pakistan, Paraguay, Peru, Philippines, Poland, Portugal, Republic of Moldova, Romania, Russian Federation, Senegal, Serbia and Montenegro, Slovakia, Slovenia, Spain, Sudan, Sweden, Switzerland, The Former Yugoslav Republic of Macedonia, Tunisia, Turkey, Turkmenistan, Ukraine, United Kingdom of Great Britain and Northern Ireland, United States of America, Uruguay and the European Atomic Energy Community (Euratom).

36. Cambodia, Egypt, Ethiopia, Haiti, Iran, Iraq, Jordan, Kazakhstan, Malaysia, Myanmar, Nigeria, Saudi Arabia, South Africa, Syrian Arab Republic, Venezuela, Yemen, Zambia and Zimbabwe. Representatives of the following intergovernmental organisations participated in the Conference as observers: the United Nations, the IAEA and the League of Arab States.

37. The Final Act is deposited with the Director General of the IAEA. In accordance with paragraph 1 of Article 20 of the convention, the Director General, as depositary, circulated a certified copy of the Amendment to the convention to all States parties and Euratom on 25 July 2005.

38. During the Amendment Conference, it was proposed by Paraguay to amend the convention to apply to “all radioactive material and associated facilities.” Some States noted that the issue of security of

56. Also, as reflected in the text of the 2003 “well-defined amendment” and pursuant to the Expert Meeting recommendations of 2001 that an amendment to the convention should reflect the importance of national responsibility for physical protection, the amendment contains a new “core” undertaking by states to “establish, implement and maintain a physical protection regime applicable to nuclear material and facilities under [their] jurisdiction.”³⁹

57. Further, the amendment introduces a legal commitment to have and implement a physical protection regime covering the Physical Protection Objectives, and introduces a legal commitment covering the Physical Protection Fundamental Principles. Through this, the aim of the physical protection regime is:

- protecting against theft and other unlawful taking of nuclear material;
- ensuring the implementation of measures to locate and, where appropriate, recover missing or stolen nuclear material;
- protecting nuclear material and nuclear facilities against sabotage; and
- mitigating or minimising the radiological consequences of sabotage.⁴⁰

58. In implementing this undertaking, States Parties shall:

- establish and maintain an appropriate legislative and regulatory framework for physical protection;
- establish or designate a competent authority responsible for its implementation; and
- take other appropriate administrative measures necessary for the physical protection of such material and facilities.⁴¹

59. Further, in implementing the relevant obligations under the amendment, each State Party shall, without prejudice to any other provisions of the convention, “apply insofar as is reasonable and practicable” a number of Fundamental Principles of Physical Protection of Nuclear Material and

radioactive material and associated facilities was being discussed by the IAEA Board of Governors and General Conference. The relevance of the Code of Conduct on the Safety and Security of Radioactive Sources, of the International Conference on the Safety and Security of Radioactive Sources, held 27 June-1 July 2005, in Bordeaux, France, of the Action Plan on Non Proliferation of Weapons of Mass Destruction, and of the Action Plan on Safety and Security of Radioactive Sources, both adopted by the G-8 at its Evian Summit in June 2003, were also mentioned. However the Conference, while noting the value of an international legally binding instrument on the safety and security of such material and facilities, agreed that the proposal went well beyond the scope of the convention, which was confined to nuclear material and nuclear facilities.

39. See Articles 2(2), 2(3) and 2A(1) of the amendment.

40. These provisions reflect the four objectives of physical protection as mentioned in paragraphs 11-14 of this paper. See new Article 2A(1)(a)-(d) of the amendment.

41. See new Article 2A(2)(a)-(c) of the Amendment.

Nuclear Facilities.⁴² This particular way of drafting the chapeau of this provision was necessary in order to avoid weakening certain other obligations contained in other provisions of the convention.

60. Finally, it should be noted that a State Party, taking into account the nature of the material, its quantity and relative attractiveness and the potential radiological and other consequences associated with any unauthorised act directed against it and the current evaluation of the threat against it, may reasonably decide that nuclear material does not need to be subject to the established physical protection regime.⁴³ However, the amendment provides that “such nuclear material should be protected in accordance with prudent management practice”.⁴⁴ It should be mentioned that the current convention foresees a similar case for international transport of nuclear material in Annex II.

(iii) *Prevention and combating of offences relating to nuclear material and nuclear facilities worldwide*

61. Under the present convention a State Party is required, *inter alia*, to make a punishable offence under its national law, the intentional commission of:

- an act without lawful authority which constitutes the receipt, possession, use, transfer, alteration, disposal or dispersal of nuclear material and which causes or is likely to cause death or serious injury to any person or substantial damage to property;
- a theft or robbery of nuclear material;
- an embezzlement or fraudulent obtaining of nuclear material; and
- an act constituting a demand for nuclear material by threat or use of force or by any other form of intimidation.

62. Convinced that offences relating to nuclear material and nuclear facilities are matters of grave concern, and that there was an urgent need to adopt appropriate and effective measures or to strengthen existing measures to ensure the prevention, detection and punishment of such offences, the amendment reflects States Parties’ agreement for the inclusion of new offences and the revision of the majority of existing offences under the convention. In particular, to avert the potential dangers posed by illicit trafficking, the unlawful taking and use of nuclear material and the sabotage of nuclear material and nuclear facilities, the amendment now introduces as punishable offences:

42. See new Article 2A(3) of the Amendment. It is recalled that the Final Report of the Expert Meeting of 2001 recommended that one of subjects that should be covered in a “well-defined amendment” of the convention, was the incorporation of the Physical Protection Objectives and Fundamental Principles. In fact, during the meetings of the Open-ended Group of Experts a vast amount of effort was spent in seeking consensus on the precise way to cover these principles. While the Open-ended Group of Experts agreed that the Fundamental Principles should be kept together as a whole and their language should not be modified, the introduction of the Fundamental Principles into the text of the convention was an issue on which the Open-ended Group of Experts was unable to reach agreement prior to the Amendment Conference.

43. See new Article 2A(4)(a) of the amendment.

44. See new Article 2A(4)(b) of the amendment.

- the intentional commission of an act which constitutes the carrying, sending, or moving of nuclear material into or out of a state without lawful authority (i.e. the offence of nuclear smuggling (or illicit trafficking)); and
- an act directed against a nuclear facility, or an act interfering with the operation of a nuclear facility, where the offender intentionally causes, or where he knows that the act is likely to cause, death or serious injury to any person or substantial damage to property or to the environment by exposure to radiation or release of radioactive substances, unless the act is undertaken in conformity with the national law of the State Party in the territory of which the nuclear facility is situated.⁴⁵

63. The amendment also introduces new ancillary offences of contributing to and organising or directing the commission of an offence.⁴⁶ Whereas the ancillary crimes of threat, attempt and participation were already covered by the present convention, the amendment further extends their application to the relevant main offences in the convention.

64. Further, the offences relating to an act constituting the unlawful taking of nuclear material⁴⁷, an act directed against a nuclear facility⁴⁸ and a threat to use nuclear material⁴⁹ were expanded to include “substantial damage to the environment.”

65. Also, as indicated earlier, the question of defining an offence relating to an act directed against a nuclear facility, which causes or is likely to cause death or serious injury to any person or substantial damage to the environment “by exposure to radiation or release of radioactive substances” was also solved. Under the amendment, such an act would be considered as an offence only when the consequent damage i.e. death or serious injury to any person is caused (or is likely to be caused) “by exposure to radiation or release of radioactive substances”.⁵⁰ In this context, the question of what was meant by the additional language “unless the act is undertaken in conformity with the national law of the State Party in the territory of which the nuclear facility is situated” was also raised. States Parties agreed that this phrase should be understood as covering acts of authorised personnel (e.g. police, firemen, other authorities and operators) carrying out their duties, so as to ensure that such acts would not constitute an offence under national law.

66. Finally, as foreseen during the work of the Group and as outlined in paragraph 41 above, following considerable discussions at the Amendment Conference,⁵¹ states agreed to include a

45. A threat either to commit such an offence per se or to commit such an offence in order to compel a natural or legal person, international organisation or state to do or refrain from doing any act, is also an offence.

46. See new paragraphs (j) and (k) of Article 7.

47. See the amendments to paragraphs 1(a) of Article 7 of the amendment.

48. See the amendments to paragraphs 1(e) of Article 7 of the amendment.

49. See the amendments to paragraphs 1(g)(i) of Article 7 of the amendment.

50. See the amendment to paragraph 1(e) of Article 7 of the amendment.

51. During the discussions of the proposed subparagraph 4(b) of Article 2, one state (Mexico) proposed to replace the word “inasmuch” with the word “insofar”. In the broad exchange that took place, it was recognised that there was a substantive difference between both terms. Some delegations made it clear that the phrase “inasmuch” had at least two meanings in English, one of them is “to the extent that” and a second meaning is “because”. The state accepted the wording “inasmuch”, on the understanding that the text it considers acceptable is the text in Spanish. The same state also expressed a reservation on preambular paragraph 6 which is reflected in the summary records of the Conference.

provision that explicitly excludes from the scope of the convention “activities of armed forces during an armed conflict” and the “activities undertaken by military forces of a state in the exercise of their official duties, inasmuch as they are governed by other rules of international law”. This was only possible after the inclusion of corresponding language that confirmed that “Nothing in th[e] convention shall be construed as a lawful authorisation to use or threaten to use force against nuclear material or nuclear facilities used for peaceful purposes.”⁵² It should be noted that the same provision was the subject of considerable discussion during the negotiations of the International Convention for the Suppression of Acts of Nuclear Terrorism (the Nuclear Terrorism Convention).⁵³

(iv) *Facilitating international cooperation and information exchange among states and the IAEA*

67. In light of a desire to strengthen further international cooperation to establish effective measures for the physical protection of nuclear material and nuclear facilities, States Parties agreed on amending the convention to provide, in particular, that:

- States Parties co-operate, to the maximum extent feasible, in the case of a credible threat of sabotage of nuclear material or a nuclear facility or in the case of sabotage thereof.⁵⁴ In this regard, on the basis of the information and requests received from States Parties, the IAEA may be required to exchange information and facilitate coordination and cooperation amongst States Parties concerned;⁵⁵
- States Parties consult and co-operate, as appropriate, amongst themselves directly or through the IAEA⁵⁶ and other relevant international organisations, with a view to obtaining their guidance on the design, maintenance and improvement of their national system of physical protection of nuclear material in domestic use, storage and transport and of nuclear facilities.⁵⁷

68. The IAEA will assume, pursuant to the amendment, certain functions in addition to those foreseen in the existing convention, such as the usual depositary functions.⁵⁸ The IAEA will carry out these additional functions on request, which include, *inter alia*, in addition to the two aforementioned amendments concerning co-operation between States Parties, the IAEA’s participation in the exchange

52. See proposal made by China and incorporated as paragraph 4(c) of Article 2 of the Amendment.

53. See UN General Assembly Resolution A/RES/59/290, 15 April 2005.

54. States Parties’ coordination and cooperation in these areas will be implemented “through diplomatic or other agreed channels” and such cooperation will be “determined bilaterally or multilaterally by the States Parties concerned.” [see paragraph 3(d) of Article 5].

55. See the amendment to paragraph 3 of Article 5.

56. It should be noted that cooperation between States Parties and, as a consequence, requests for the IAEA to act as a facilitator is expected to be significant particularly due to States Parties’ undertakings under the amendments to Articles 2 and 7.

57. See new paragraph 5 of Article 5.

58. These functions are identified in IAEA document GOV/INF/521, which informed the IAEA Board of Governors upon entry into force of the convention on 8 February 1987. The additional functions of the Agency under the Amendment are identified in IAEA document GOV/2005/51/Corr.1 of 17 August 2005.

of information with and between States Parties for recovering and protecting unlawfully taken nuclear material.⁵⁹

69. In addition, although not amended, Paragraph 1 of Article 14 of the convention requires the Agency to communicate periodically information on laws and regulations giving effect to the convention, received from States Parties. Such communications are expected to increase since the amendment requires States Parties, *inter alia*, to make additional offences punishable under its national law and to establish, implement and maintain an appropriate physical protection regime applicable to nuclear material and nuclear facilities under its jurisdiction.

70. Finally, an amendment to paragraph 1 of Article 16 requires the Director General, as depositary for the convention, to convene a conference of States Parties five years after the entry into force of the amendment. The purpose of this conference will be to review the implementation of the convention as amended, as well as its adequacy as concerns the preamble, the whole operative part and the annexes in light of the then prevailing situation.

E. Entry into force of the amendment

71. The amendment requires no signature but is subject only to ratification, acceptance, or approval. It will enter into force in accordance with paragraph 2 of Article 20 of the convention “on the thirtieth day after the date on which two thirds of the States Parties have deposited their instruments of ratification, acceptance or approval with the depositary”.⁶⁰

72. On 25 July 2005, the Director General of the IAEA, as depositary, circulated a certified copy of the amendment to the convention to all States Parties and Euratom. At the same time, governments were invited to deposit with the Director General of the Agency, at their earliest convenience, their instruments of ratification, acceptance or approval of the amendment to the convention, pursuant to paragraph 2 of Article 20 of the convention.

F. Conclusion

73. In conclusion, the amendment to the convention represents the culmination of work that had been progressing for a number of years. It is yet a major achievement – another milestone – in international efforts to improve nuclear security and reduce the vulnerability of States Parties to nuclear terrorism.

74. On 19 and 29 September 2005, the IAEA Board of Governors and General Conference, in welcoming the amendment to the convention encouraged “all States Parties to the convention to ratify the amendment as soon as possible and to deposit instruments of ratification, acceptance or approval with the depositary to enable the early entry into force of the amendment.” In addition, “all States

59. See the amendment to paragraph 2 of Article 5 of the Amendment which introduces an explicit reference to the IAEA.

60. Article 20, paragraph 2 of the convention reads: “The amendment shall enter into force for each State Party that deposits its instrument of ratification, acceptance or approval of the amendment on the thirtieth day after the date on which two thirds of the States Parties have deposited their instruments of ratification, acceptance or approval with the depositary. Thereafter, the amendment shall enter into force for any other State Party on the day on which that State Party deposits its instrument of ratification, acceptance or approval of the amendment.”

Parties to the convention [were encouraged] to act in accordance with the object and purpose of the amendment until such time as the amendment enters into force”.⁶¹

75. The challenge that now lies ahead is not only to promote adherence to the amendment to the convention but even more so to assist states in the implementation of the amendment both at the technical (i.e. physical protection) and legal level and to coordinate such assistance with other conventions against nuclear terrorism. The IAEA maintains a legislative assistance programme to help states in this regard.

61. See the General Conference Resolution number 10, adopted on 30 September 2005 [GC(49)/RES/10].

Law on the Peaceful Uses of Nuclear Energy: Key concepts

by Diane de Pompignan*

According to the Concise Oxford Dictionary, the word “concept” means “an idea or mental picture of a group or class of objects, formed by combining all their aspects”. Without getting into a philosophical discussion about the nature of a concept, if we want to identify and examine in a critical fashion the key concepts which ought to be included in a general domestic law governing the peaceful uses of nuclear energy, then we need to agree on the definition of the word “concept”.

Several points have to be considered in this respect: first, are the key concepts specific to nuclear law or are they found in the ordinary law but with a particular meaning in the context of nuclear legislation? Secondly, if a concept is not the same as a principle, do we not need to adopt a wide definition of the word, since, as between the two terms, it is used in legal language much less frequently? A principle is defined as “a fundamental truth or proposition serving as the foundation for belief or action” and when used in a legal context, does not seem to differ much from a concept; both designate an element or a general standard under which several more operational norms can be organised.

We shall therefore, in this study, adopt a wide definition of the term “key concept” which is made up of two categories: general categories resulting from the principles of nuclear law, such as the “safe management of radioactive waste”, which is based on the principle of safety, the foundation of all nuclear regulation, and “physical protection”, a reflection of the principle of non-proliferation and security; and general legal categories almost always included in general nuclear legislation such as “licence”, “control” and “compensation”.

The definition of “concept” does not include technical or legal terms which, although used in nuclear legislation, have to do with what is being regulated and not to the rules themselves. Such terms include “nuclear installation”, “nuclear material”, “deep geological waste repository” or “facility”, and the “commissioning” of an installation.

Having defined the word “concept”, we must now consider whether it is relevant to introduce concepts into a general nuclear law, and this involves an analysis of the nature of the obligation or reason for so doing: is it a binding legal obligation resulting from international commitments, or is the

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reason rather moral or ethical, in view of the nature of the risks involved in the use of nuclear energy? Is their use in legislation related to a particular national social context or based on operational or practical grounds in the belief that they provide a better guarantee that norms will be applied? In this context, key concepts will be categorised according to their origin and the reason for their inclusion in nuclear legislation. This, in turn, requires consideration of their scope and effectiveness inasmuch as they have legal force and effect.

An examination of the reason for including certain key concepts in such a general law requires taking into account the fact that it is designed to cover all branches of nuclear law and to be supplemented or applied through the adoption of other laws or regulations. As such, it is different from implementing regulations, special legislation or general legislation regulating other subjects but including nuclear activities. A general nuclear law would normally address issues relating to radiation protection, the safety of nuclear installations, nuclear liability, transport and trading in radioactive materials, as well as radioactive waste management.

In addition, such a law usually applies only to the peaceful uses of nuclear energy, i.e. all civil activities involving radioactive substances, nuclear materials or installations and equipment generating ionising radiation.¹ All military nuclear activities are generally excluded.

In order to classify these key concepts and to analyse the reasons for their inclusion, it would seem helpful to undertake an analysis of existing legislation, and in particular, recent legislation which *a priori* reflects current general trends in nuclear law. Such analysis, based on translations of national legislation, inevitably leads to inconsistencies. Such an analysis shows that it is possible to include a number of key concepts deriving from the principles of nuclear law or from more operational categories of legislation (I), the effectiveness of which depends on a combination of legal and non-legal conditions, and the choice of which remains, above all, national (II).

I. Key concepts: nuclear law principles or general law concepts

Nuclear law is based on a number of principles which may be inserted into a general atomic law for legal or practical reasons.

A distinction can be made between two types of key concepts in a general nuclear law. The first covers specific nuclear law concepts resulting from principles which are based on a legal obligation or on the actual purpose of a nuclear law to establish guidelines and priorities (A). The second refers to categories of general law which reflect these principles in more practical terms, thereby facilitating the application of the provisions of the general law in other legislation (B).

A. Concepts arising from nuclear law principles

An analysis of the key concepts used in a general law governing the peaceful uses of nuclear energy shows that many of them derive from the general principles of nuclear law. Of these, a distinction can be made between specific principles of nuclear law – some of which cross-cut all nuclear activities, while others apply to certain nuclear activities only – and principles of a more universal nature.

1. Hungarian Act CXVI of 1996 on Atomic Energy, Section 2.

The first of the cross-cutting nuclear law principles appears to be that of safety, which can be further divided into the subsidiary principles of prevention, protection and precaution. Given the special hazards related to the use of nuclear energy, one of the objectives of a nuclear law must be to promote the exercise of caution, prevent potential damage and mitigate the adverse effects of misuse or accidents. Thus, many pieces of legislation include key terms relating to safety or its subsidiary principles, these latter often being cited directly. Direct references may be made to the safety principle: “guaranteeing nuclear safety”, “adequate standards of nuclear safety”,² the “safe use of energy”,³ to concepts referring to it implicitly: “preventive measures”,⁴ “acceptable level of risk”,⁵ or to concepts emanating from it, such as “quality assurance”. This last concept refers to the need to ensure “quality of nuclear installations and activities at all stages during the life of a nuclear installation”.⁶

A second category of cross-cutting principles is those which govern the dealings between the various persons involved in the use of nuclear energy. These include the principle of the independence of the nuclear regulatory authority, which must be given the resources and powers necessary for the impartial exercise of its functions.⁷ Mention must also be made of the principle of liability which implies not only that each state is responsible for the nuclear installations on its territory,⁸ but also that the operator of a nuclear installation has primary responsibility for the safety of his/her installation.⁹ Furthermore, the principles of transparency and participation, which imply an “obligation to inform the public” or the “right of the public to information”¹⁰ about the use of nuclear energy, and the involvement of all the persons concerned in the formulation of nuclear regulations, may also be included in a general nuclear law.

A general nuclear law can include a number of key concepts arising not only from cross-cutting principles but also from principles relating to certain specific nuclear activities. Since it governs peaceful activities, a general nuclear law may refer to the principle of the peaceful uses of nuclear energy (principle of non-proliferation),¹¹ which ensures that nuclear materials and technologies are traded or used for strictly peaceful purposes inasmuch as they can also be used to develop nuclear weapons. One of the concepts deriving from this principle is that of “physical protection”, meaning “a system of technical and organisational measures, the aim of which is to prevent unauthorised activities

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2. Lithuanian Nuclear Energy Act of 1996, Sections 3 and 27.
 3. Canadian Act to establish the Canadian Nuclear Safety Commission, Section 6.
 4. Lithuanian Act, *op. cit.*, Section 14.
 5. Hungarian Nuclear Energy Act of 1996, Section 9.
 6. Slovak Act on the Peaceful Use of Nuclear Energy of 1998, Section 22.
 7. Lithuanian Act, *op. cit.*, Section 3.
 8. Lithuanian Act, *op. cit.*, Section 4.
 9. Croatian Act on Nuclear Safety of 2003, Section 3.
 10. Slovak Act, *op. cit.*, Section 31.
Norwegian Act on Radiation Protection and Use of Radiation of 2000, Sections 14 and 18.
 11. Czech Act of 1997 on the Peaceful Uses of Nuclear Energy, Section 4.
Hungarian Act, *op. cit.*, Section 3.
Swiss Nuclear Energy Act of 2003, Section 4.

with nuclear installations or nuclear materials”,¹² of “defence in depth”, which requires the existence of several barriers protecting nuclear materials, or “non-proliferation safeguards”.¹³

Nuclear legislation may also refer to the principles of radiation protection, which constitute the justification for the practices adopted – human activity requiring the use of nuclear energy is authorised only if, following a cost-benefit analysis, it is recognised that it produces a net positive benefit for society; the principle of optimisation – all exposures must be as low as can reasonably be achieved;¹⁴ and the principle of dose limitation¹⁵ – the dose equivalent received by individuals must not exceed certain recommended limits. Concepts such as “optimal radiological safety”¹⁶ and “dose limits”¹⁷ are derived from these principles.

Over and above specific nuclear law principles, direct or indirect references to other principles based on broader universal considerations may also be included in a general nuclear law. Because of the scale of the risks associated with the uses of nuclear energy and the irreversible consequences which future generations might suffer as a result of actions taken by the present generation, many nuclear laws include universal principles such as “sustainable development” or “limitation”¹⁸ or (radioactive) “waste management” which mean that a society should strive for development which can satisfy the needs of present generations without preventing future generations from satisfying theirs. Sometimes references are made instead to: “protecting human life”, “protecting man and the environment”, “socially-accepted risks”,¹⁹ “consequences on the gene pool”.²⁰

Thus, general domestic laws governing the peaceful uses of nuclear energy are likely to include a number of key concepts deriving from the principles of nuclear law or from universal principles, and an analysis should be made of the reasons dictating their inclusion. These reasons can relate both to legal obligations and to the very purpose of a nuclear law to establish general guidelines and priorities.

The origin of some of the nuclear law principles mentioned above lies in binding international conventions, but most principles concerning safety and radiation protection are based on “soft law” instruments.

The first group includes, essentially, the principles relating to the peaceful uses of nuclear energy whose origin lies in the Nuclear Non-Proliferation Treaty of 1968 and the Convention on the Physical Protection of Nuclear Material of 1979, as well as the liability principles laid down in the

12. Slovak Act, *op. cit.*, Section 23.

13. Australian Nuclear Non-Proliferation (Safeguards) Act 1987.

14. ALARA Principle, As Low As Reasonably Achievable.
Norwegian Act, *op. cit.*, Section 5; and Lithuanian Act, *op. cit.*, Section 3.

15. Swiss Act, *op. cit.*, Section 30 and Hungarian Act, *op. cit.*, Section 4.

16. Latvian Act of 2000 on Radiological Safety and Nuclear Safety, Section 3.

17. Norwegian Act, *op. cit.*, Section 5.

18. Swiss Act, *op. cit.*, Section 30.

19. Hungarian Act, *op. cit.*, Section 1.

20. Norwegian Act, *op. cit.*, Section 1.
Bulgarian Act of 2002 on the Safe Use of Nuclear Energy, Section 3.
Swiss Act, *op. cit.*, Section 4.

Vienna Convention of 1963 and the Paris Convention of 1960, as amended. Mention may also be made of the principles relating to safety which are, for the most part, included in the Convention on Nuclear Safety and the Joint Convention of 1997 on the Safety of Spent Fuel Management and the Safety of Radioactive Waste Management. For example, the concept of “quality assurance” is referred to in Article 13 of the Safety Convention and Article 23 of the Joint Convention. Thus, if a state has ratified one of these binding conventions, it will be obliged to include in its legislation the provisions and concepts referred to in them. Each Contracting Party commits itself to taking, “within the framework of its national law, the legislative, regulatory and administrative measures (...) for implementing its obligations under this convention”.²¹

However, as noted above, most of the principles relating to safety and radiation protection are laid down in soft law instruments, essentially in the form of recommendations. With regard to radiation protection, the principles are based on the recommendations published periodically by the International Commission on Radiological Protection (ICRP). The safety principle has been widely supported thanks to the recommendations of the International Atomic Energy Agency, which has published in its “Safety Standards” series provisions affecting all aspects of nuclear safety. Some of the safety principles, such as that of precaution, together with the more universal principles, such as protecting the environment and preserving the patrimony of future generations, were formulated within the context of the development of environmental law, and are based on the incentives or statements contained, for example, in the Rio Declaration on Environment and Development, adopted at the United Nations Conference on Environment on 5 June 1992.

In this context, the legal obligation on states to introduce into their national legislation the concepts mentioned in these instruments would appear more tenuous but is not non-existent. For, while the standards are not in themselves binding on Contracting Parties, it is possible for them to become binding if they are incorporated into international customary law through the existence of an *opinio juris*, and of national practices which are in conformity with them and repeated over time. However, while it is recognised that certain principles can be considered as having been approved by *opinio juris*,²² the practice element is often more difficult to establish.

Thus, the inclusion in a general nuclear law of key concepts deriving from the principles of nuclear law can apparently result from an international legal obligation or from their inclusion in international nuclear law instruments, even non-binding ones, which express concerns shared by all nations. Such inclusion also appears to be linked to the very purpose of a nuclear law to establish orientations and priorities. Thus, most general domestic legislation governing nuclear activities includes a specific provision guiding the application of nuclear law principles which are then stated elsewhere in the text. For example, many laws state the absolute priority given to safety.²³ Thus, concepts deriving from the principles of nuclear law can be said to be “key” when they are recognised as having priority, such priority possibly resulting from their acceptance at international level.

A study of the general nuclear laws adopted recently throughout the world shows that it is possible to introduce into such legislation a number of key concepts deriving from the principles of nuclear law. As most such key concepts are general in nature and difficult to translate into traditional

21. Joint Convention of 1997 on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, Article 18.

22. It is interesting here to refer, for example, to the Principles in the Rio Declaration, the statement of which can help begin to establish an *opinio juris*.

23. Hungarian Act, Section 4; Slovak Act, Section 3, and Croatian Act, Section 3.

legal terms, the introduction of a second category of key concepts, general law which can take on a particular meaning in the context of nuclear law, is necessary.

B. Concepts deriving from general law

General nuclear legislation contains key concepts which are, in fact, general law categories included for practical reasons and which convert internationally recognised principles of nuclear law into legal terms. At the same time, they establish a legal framework allowing for the adoption of subsidiary instruments which implements that general legislation.

These general law concepts are used in other domestic laws governing other types of hazardous activities and may, in the context of nuclear legislation, take on a particular meaning specific to nuclear law. They may be classified into three groups: first, licensing procedures; second, control procedures; and third, accident procedures involving nuclear materials.

Nuclear activities are by their nature hazardous, and their regulation must be dictated by safety considerations, including protection and precautionary measures aimed at avoiding nuclear proliferation. The most important method of ensuring the implementation of these considerations is the requirement for a “licence” to undertake any activity using nuclear energy, such licence normally being issued to the nuclear operator by the “regulatory” or “licensing authority”. Indeed, hazardous activities, whether nuclear or not, are often subject to a prior licensing regime. For example, the Environment Code of France provides for such a regime for activities capable of generating pollution or harmful effects.

Where licensing regimes are in place, the key terms “licence” and “licensing authority” appear in all general nuclear laws. A specific example is Section 4 of the Slovak Act on the Peaceful Uses of Nuclear Energy of 1998: “The use of nuclear energy or carrying out of activities in the sphere of the use of nuclear energy shall only be permissible on the basis of an authorisation issued by the Nuclear Regulatory Authority of the Slovak Republic to a legal person or a natural person who complies with the conditions set out by the general regulation on these activities and by this act (...).” A licence may also be required for certain specific activities: for the storage of nuclear fuel and for installations, for example,²⁴ to handle nuclear materials and construct and operate a nuclear power plant,²⁵ and to transport or import nuclear materials,²⁶ this last category of licence addressing more specifically concerns about nuclear non-proliferation.

The second general law category which might be included in a general nuclear law has to do with “control”. If an activity is subject to authorisation, it is essential to monitor compliance with the licensing conditions by the licence-holder. Exercising control over regulated activities is also typical of administrative law and is carried out by administrative discipline. Moreover, in order to protect the environment, which can be damaged by certain activities and in particular nuclear ones, it is also necessary to carry out systematic and preventive controls to ensure that even if regulations are complied with, the risk of nuclear damage is contained. These two aspects of control are found in

24. German Act, *op. cit.*, Section 6 *et seq.* and *Bulgarian Act*, Section 98.

25. Swiss Act, *op. cit.*, Sections 6 and 13 *et seq.*

26. German Act on the Peaceful Utilisation of Atomic Energy and the Protection against its Hazards, as amended in 2002, Sections 3 and 4.

national legislation governing numerous activities²⁷ and take on particular importance in the context of nuclear activities in view of the potential risks involved.

In fact, a general nuclear law may include numerous references to the “control” concept such as “surveillance” or “evaluation”. Legislation may refer to controlling the safety of installations,²⁸ the concentration of radioactive elements in a given place, doses of radiation received by certain persons, or the conditions for issuing a licence.²⁹ It is important to note that the term “control” has a specific meaning in nuclear law. Thus, the expression “institutional control” usually designates the control measures taken after the closure of a nuclear waste repository.

Lastly, there may be provisions dealing with the risk of a nuclear or radiological accident. In this case three different general law categories are involved: the “third party liability” of the person responsible and the “compensation of victims” by means of “insurance” or a “guarantee”; the issuing of “sanctions”,³⁰ and the application of “emergency” measures involving the designation of a “national contact point” and “notification” of all the competent authorities. All these terms, which are used in other, non-nuclear, legislation, may be included in a general nuclear law.

The introduction of such general law categories is based on a two-fold practical consideration, as much as on a legal obligation. Their inclusion in a general nuclear law may result from an international undertaking by the country concerned. All these general law categories are found in the main conventions and other instruments of international nuclear law. Thus, the terms “licence” and “control” appear frequently in the Safety Convention [see in particular Article 7], the Joint Convention [see Article 19], and the IAEA Code of Conduct on the Safety and Security of Radioactive Sources [Articles 18 and 19 in particular], while accident categories such as “compensation and liability” can be found in the above-mentioned Vienna and Paris Conventions, and the category of punishable “offence” is used in the Convention on Early “Notification” of a Nuclear “Accident” and the Convention on the Physical Protection of Nuclear Material (Article 7 provides that certain types of conduct constitute offences). Thus, in the same way general principles in a nuclear law are likely to be based on a legal obligation, general law categories used in these same international instruments also seem to flow from such obligations.

Certain key concepts deriving from the fundamental principles of nuclear law refer to practical measures, whereas others essentially lay down objectives and priorities. In both cases, the concepts

27. Thus, Article L512-11 of the French Environment Code provides: “Certain categories of installation dealt with in this section [installations capable of generating pollution and harmful effects], defined by decree in the *Conseil d’Etat* because of the risks they present, may be subject to periodic controls enabling the operator to be sure that his installations are operating in compliance with the conditions required by the regulations. Such controls shall be carried out at the cost of the operator by approved bodies”. As to regular controls to ensure that the natural environment is maintained in equilibrium, reference can be made for example to Article L211-2 of the Environment Code which provides that the river police shall carry out technical controls of installations, works or operations which can affect water quality.

28. See, for example, the Croatian Act, *op. cit.*, Section 11; and the Hungarian Act, *op. cit.*, Section 17.

29. Lithuanian Act, *op. cit.*, Section 11.

30. For example, Chapter 9 [Sections 88 *et seq.*] of the above-mentioned Swiss Act provides *inter alia* for sanctioning offences against security and safety measures, offences relating to nuclear articles or radioactive waste, and the abandonment of the possession of nuclear materials or radioactive waste.

have to be transposed into legal terminology when they are included in an act intended, in “traditional” law, to constitute a prescribed standard,³¹ i.e. to lay down a general and enforceable rule.

The first category includes terms such as “dose limitation”, “liability”, “physical protection”, “guarantees” and “defence in depth”. The dose limitation principle can, in practice, be transposed into dose limits which must not be exceeded. However, compliance with these requirements has to be “controlled” in order to become a conventional legal technique. In the same fashion, the “liability” principle is transposed into legal terminology by reference to the operator’s “third party liability”, which is a legal category different from criminal liability.

Other key concepts which may be introduced into a general nuclear law are more difficult to assimilate to “traditional” law because of their generality and purpose. This applies for example to radiation protection principles apart from dose limitation. In its Communication No. 85/C347/03 of 31 December 1985, the European Commission states that “The basic principles of justification and optimisation of exposures, which were formulated in ICRP Publication 26 (...) are clearly only of general value, something which must be taken into account when introducing them into national legislative and administrative provisions”. In practice, such principles can be translated into legal terminology by means of the “licensing” procedure and “control” measures: ensuring compliance with licensing conditions can provide a basis for “controlling” application of the optimisation principle. Operators may be required, for example, to implement measures such as using techniques to maintain doses as low as reasonably achievable and conduct tests to ensure that doses are optimised.

This shows that the reason for including general law categories such as “licensing”, “control” and “liability” into a general nuclear law is that they can be used to convert into legal terms other more general concepts. Introducing such categories provides a basis for the adoption of subsidiary legislation (e.g. regulation) to implement a general nuclear law or provisions supplementary to it. For, subsidiary legislation may lay down the conditions required for obtaining a licence or establish thresholds or procedures for monitoring protection of the surrounding environment.³²

Thus, a general domestic law governing the peaceful uses of nuclear energy is likely to include two types of key concepts: the first deriving from the fundamental principles of nuclear law, and the second based on categories of general law. The reason for incorporating both results from legal obligations to do so or for practical considerations. This last consideration raises the question of the effectiveness and the implementation of the key concepts which have just been mentioned. Difficult to measure, their effectiveness seems to be subject to legal and non-legal conditions, whereas their implementation depends, in the final analysis, on national policy based on legal and ethical considerations.

31. Lochard J., and Grenery-Boehler M.C., “Optimising radiation protection – the ethical and legal basis”, in *Nuclear Law Bulletin* No. 52.

32. For example, Section 25 of the above-mentioned Hungarian Act provides that “the Minister of Environment Protection and Regional Development shall provide for the inspection of the radioactive contamination of air, land and water environment”.

II. The effectiveness of key concepts the implementation of which depends in the final analysis of national policy

A. *Difficulty in measuring the effectiveness of key concepts*

While certain key concepts might or should, for various reasons, be included in a general nuclear law, consideration has to be given to their effectiveness. In practice, it is not easy to measure the effectiveness of key concepts deriving either from nuclear law principles or from general legal categories since their application goes beyond compliance with simple legislative obligations. This is perfectly illustrated by the use of the expression “safety culture”, the effectiveness of which is tested by reference to numerous criteria.

If the principles of nuclear law were justiciable, this could be considered as proof of their effectiveness, but it is not obvious that they are so. There are precedents in the United States and in the United Kingdom where a failure to comply with the principle of optimisation was held to be a breach of a duty of care. However, in France, although administrative tribunals seem to recognise indirectly the existence of the principle of precaution, they are much more cautious with regard to controlling internal legality where only a clear error of appreciation might justify the annulment of a decision (*Conseil d’État*, 28 July 1999, *Intercommunal Association Morbihan sous très haute tension et autres*) and even more so for the control of external legality, recognising a veritable obligation of precaution but condemning an excess thereof (*Conseil d’État*, 28 February 1997, *WF – Genève et autres*).

It could at first sight be thought easier to determine the effectiveness of key concepts deriving from general legal categories since procedures relating to licensing, control, inspection, emergency preventive measures or the setting up of financial guarantee systems are usually based on relatively detailed provisions. However, assessing the effectiveness of such measures depends on qualitative elements which cannot be evaluated through a simple verification of data.

For example, in the field of radiation protection, while it is true that data on ionising radiation doses constitute an indicator of performance, other factors come into play in assessing to what extent the installations or activities in question comply with safety and optimisation imperatives. On this topic, reference may be made to the elements envisaged by the United Kingdom Health and Safety Executive (HSE) to assess the safety of a nuclear installation and which refer to the need to reduce doses received to the lowest reasonably achievable level.³³ At the end of the day, the decision as to the nature of reasonably achievable measures remains subjective and subject to non-qualitative criteria. Similarly, where a licence is required, the licensing conditions often include requirements which are difficult to evaluate: thus, under the Swiss Act [Section 7], the granting of a licence to handle nuclear materials is subject to the requirement that “the protection of man and the environment as well as nuclear materials and safety are ensured”.

While the use of procedures for licensing or monitoring doses should enable more general principles such as safety to be transposed into legal terms, the presence of very broad conditions governing the granting of licences or the exercise of control shows that measuring the effectiveness of

33. Five criteria are examined: a person must not receive doses of ionising radiation in excess of the statutory dose limits for normal operation; the level of exposure of any person to radiation must be as low as reasonably achievable; the effective collective dose received by operators and the public resulting from the operation of a nuclear installation must be as low as reasonably achievable; all reasonably achievable measures must be taken to prevent accidents; all reasonably achievable measures must be taken to limit the consequences of any radiological accident.

the key concepts included in a general nuclear law, whatever their nature, goes beyond compliance with legislative or regulatory requirements.

In order to judge the application of the key concepts contained in a general nuclear law, it therefore seems necessary to use criteria which are not easily quantifiable or verifiable. As regards safety, for example, reference is often made to “safety culture” which is “that assembly of characteristics and attitudes in organisations and individuals which establishes that, as an overriding priority, nuclear plant safety issues receive the attention warranted by their significance”.³⁴ Apart from criteria relating to the legislative framework governing the use of nuclear energy, two sets of criteria may be identified which make it possible to measure the effective application of measures of safety, a key concept of a general nuclear law.³⁵

The first concerns the safety policy of an enterprise conducting activities using nuclear energy. Like the measures taken by the French operator EDF,³⁶ this could involve carrying out performance tests (for example, the boiler thermal balance which makes it possible to measure the power provided by the reactor), performing regular systematic maintenance tasks, or training all categories of personnel on the “safety” aspects of their work.

The second criteria essentially concerns individuals. The reason is that the human factor is often one of the causes of abnormal events. Thus, the IAEA safety recommendations³⁷ stress the values of awareness, commitment, motivation and responsibility on the part of operators, senior management and the authorities.³⁸ This, in turn, involves a constant readiness to review procedures, the proper dissemination of information, and good labour relations.

The effectiveness of key concepts which are included in general nuclear laws seems difficult to evaluate inasmuch as it involves factors which are not quantifiable and not easily enforceable by regulation. This dichotomy between quantifiable criteria and criteria based on behaviour not regulated by the law, suggests that the effectiveness of the key concepts in a nuclear law depends on both legal and non-legal conditions.

Among the legal conditions needed to give effect to the concepts contained in a nuclear law, two elements can be distinguished: the need for an effective regulatory system, and the adoption of appropriate legislation based on comprehensive evaluations of a country’s nuclear law and its application.

Positive law, laying down an enforceable general rule, is the principal instrument in mastering nuclear technology. It is therefore essential to ensure that the authorities have sufficient resources to implement the licensing and control procedures, emergency measures and coercive procedures in the

34. International Nuclear Safety Advisory Group of the IAEA, Report 75-INSAG-4 “Safety Culture”, 1991, Vienna.

35. Centre for Studies and Research in International Law and International Relations, *Les risques résultant de l’utilisation pacifique de l’énergie nucléaire*, International Academy of The Hague, Kluwer Academic Publishers, 1993, p. 68-74.

36. 3rd French National Report, prepared for the 2005 review meeting, on the carrying out of the obligations under the National Safety Convention, p. 125.

37. International Nuclear Safety Advisory Group of the IAEA, *op. cit.*

38. These concerns are also reflected in Article 12 of the Safety Convention: “Each Contracting Party shall take the appropriate steps to ensure that the capabilities and limitations of human performance are taken into account throughout the life of a nuclear installation”.

event of a failure to apply the rule. Apart from budgetary considerations, from a legal viewpoint, this means that such bodies must have sufficient authority and that their decisions are “binding on all natural and legal entities and shall be implemented strictly within the established time limits and in accordance with the prescribed procedure”.³⁹

Over and above the efficiency of the regulatory system, if the key concepts contained in a general nuclear law are to be effective, the laws and regulations adopted in the nuclear field must be appropriate for nuclear activities and updated in light of the scientific knowledge and the experience acquired at international level. Provision to this effect has been introduced by some countries⁴⁰ in their general domestic legislation governing nuclear energy, and is also present in international instruments such as the Physical Protection Convention.⁴¹ In practice, states may have recourse to external evaluations independent of their legislation, and also take advantage of the practices adopted in other countries by a system of peer review, as provided for in particular by the Safety Convention and the Joint Convention.

States may follow the recommendations of the IAEA as set out in the Safety Series, and also ask the Agency’s assistance in order to have an independent evaluation of their legislation in this field. Thus, for example, in the field of transport and safety, Transport Safety Appraisals are used to evaluate the application of the IAEA requirements and regulations in the field of transport and to make recommendations to the country being assessed with a view to improving its legal framework for regulating such activities. Moreover, with regard to nuclear emergencies, International Nuclear Emergency Exercises (INEX) have been organised in order to examine warning and communications procedures in the event of an emergency, as well as the countermeasures taken with regard to the import and export of foodstuffs. These exercises have, amongst other things, shown the participating countries the need to improve the co-ordination of information exchange techniques, monitoring arrangements and authorisation procedures for the import and export of food and goods.

It would seem that, in order to be fully effective and really help in ensuring compliance with the principles of nuclear law, the legal procedures consisting of licensing, control, notification and enforcement, must be evaluated at regular intervals and their implementation must be guaranteed by an efficient regulatory system. However, over and above these legal considerations, it seems necessary to promote the non-legal aspects. By incorporating a certain culture and attitude, individuals can accept and comply more readily with licensing and control procedures and with the fundamental principles of nuclear law because they understand the reasoning behind it. A particularly obvious example can be found in the field of safety. The development of a “safety culture” requires a commitment on the part of all the players involved.

In practice, senior managers in the nuclear industry are responsible for designing, constructing and operating installations, and also for setting up an organisational and relational framework conducive to the development of attitudes impregnated with the safety culture. This involves training staff, but also maintaining relations of trust and communication within the enterprise, and self-assessment. In this respect, as part of the assistance provided by the IAEA to countries, Operational

39. Lithuanian Act, *op. cit.*, Section 13 dealing with the principles of the activities of state control and supervision bodies.

40. See Hungarian Act, *op. cit.*, Section 5.

See also the Ukrainian Act of 2005 on the Licensing of Activities in the Field of Nuclear Energy, Section 5, which specifies the need to take “a differential approach to different types of activity and radiation sources taking into account the potential nuclear and radiation hazard associated with them”.

41. Article 6: “States Parties shall take appropriate measures consistent with their national law (...)”.

Safety Review Teams (OSARTs) undertake a general examination of the safety culture in a given organisation, and have formulated a series of questions designed to encourage bodies to consider these matters themselves.⁴²

This same safety culture must help establish a climate of trust between those being controlled, business, and the regulatory and control bodies. It is sometimes said that there is a “contractual”⁴³ element in the licensing procedure which operates together with the purely legal rules on safety. A practical example is the non-prescriptive approach adopted by certain monitoring bodies such as the Swedish Nuclear Energy Inspectorate (SKI), which helps establish a constructive dialogue and, hence, an easier and simpler implementation of the procedures and concepts contained in the nuclear law.

So, while it does not seem possible to measure the effectiveness of the two categories of key concepts likely to be contained in a general nuclear law, it seems necessary to guarantee their effectiveness. This requires a conjunction of legal conditions affecting the way in which the regulatory apparatus functions, and non-legal conditions which are designed to promote a climate of general trust.

Inasmuch as they relate to attitudes, these non-legal elements are difficult to regulate, although some countries have endeavoured to do so. One example is the 1996 Lithuanian Nuclear Energy Act, Chapter 13, which deals with labour relations in the sphere of nuclear energy.⁴⁴ This example illustrates the diversity of national approaches to regulating the peaceful uses of nuclear energy and thus the question of which key concepts should be included in a general nuclear law and how, has to be answered first and foremost by national legal and ethical policy.

B. The “national” choice of key concepts and their implementation

The way in which the key concepts are included in a country’s general nuclear law, together with the necessary implementing procedures, depends on the characteristics of the country’s legal system as well as ethical and social considerations.

That choice will reflect the diversity of national legal traditions, which explains the particular difficulties which can be encountered in inserting concepts contained in international instruments.

In fact, even if a country considers certain concepts essential to regulate the peaceful uses of nuclear energy, it can choose to introduce them not in a general law, but in special legislation or other rules, depending on its legal traditions.

For example, in France, the key concepts of nuclear law were, from the outset, enshrined in various texts not specifically relating to nuclear law and forming part of France’s legal tradition of codification. Thus, the French monitoring of basic nuclear installations is based on the regulation of

42. Carnino A., “Achievements in assessing safety culture”, in *Nuclear Law Bulletin* No. 52.

43. Patrick Reyners, quoted in the Centre for Studies and Research in International Law and International Relations Report, *op. cit.*, p. 71.

44. The provisions of this chapter include in particular restrictions on the conclusion of employment contracts [Section 70] and on industrial action [Section 73].

mines. Similarly, the transposition of four European Directives in the field of nuclear law⁴⁵ was effected by adding new articles to the Public Health Code⁴⁶ and the Labour Code.

Beyond concerns to maintain the coherence of the legal system, certain authors have regretted the “scattering”⁴⁷ of relevant provisions in various non-nuclear laws, since this adversely affects the readability of the key concepts of nuclear law whereas adopting a single general nuclear law would have the advantage of expressly subjecting nuclear activities to these concepts. This criticism could, however, become a little less relevant in France, with the adoption of the bill on nuclear security and transparency which affirms the principles of radiation protection, and preventive and precautionary action, thus gathering together a large number of the key concepts of nuclear law.

National legal traditions affect not only the method of including the most important concepts in the national body of law, but also the procedures for their implementation. While certain countries share the same procedures for transposing concepts into law, the details of their implementation depend on the modes of action traditionally used by the public authorities in each country, and on national constitutional structures.

In France, although there is no general nuclear law reflecting the principle of participation of all players involved in nuclear activities, the Act of 30 July 2003 on technological and natural risks provides that everyone has the right to be informed, in the circumstances laid down by the act, about the risks of exposure to ionising radiation due to a nuclear activity. In practical terms, provision was made for the setting up of a high commission for transparency about nuclear security, the guarantor of access to information and of the principles laid down by the act with regard to information [Chapter 3 of Title II]. This type of body is characteristic of French policy, which makes considerable use of committees of “wise men” or independent administrative authorities to guarantee application of a right. The procedures by which the key concepts are implemented reflect not only the national administration’s modes of action but also the constitutional structure of the country concerned, especially when it is federal state. Thus, in Switzerland, a separate licence is required for each nuclear activity.⁴⁸ While the federal authorities are responsible for issuing licences and monitoring compliance, the cantons are consulted and associated with the process.⁴⁹ Similarly, the German

45. These are:

- Directive 86/618/Euratom of 27 November 1989 on informing the general public about health protection measures to be applied and steps to be taken in the event of a radiological emergency;
- Directive 90/641/Euratom of 4 December 1990 on the operational protection of outside workers exposed to the risk of ionising radiation during their activities in controlled areas;
- Directive 96/26/Euratom of 13 May 1996 laying down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionising radiation;
- Directive 97/43/Euratom of 30 June 1997 on health protection of individuals against the dangers of ionising radiation in relation to medical exposure.

46. Public Health Code: Articles L 1333-1 to L 1333-20 and R 1333-1 to R 1333-93;
Labour Code: Articles L 1237-1 and L 1237-2 and R 231-73 to R 231-116.

47. See Colson (J.P.), Schapira (J.P.), “*La gestion des déchets radioactifs et la nécessité d’une loi nucléaire en France*”, in *Revue juridique de l’environnement*, No. 3/1996, p. 247-260.

48. Each nuclear activity includes the handling and trading of nuclear materials [Sections 6 *et seq.* of the abovementioned Swiss Act], the construction and operation of a nuclear installation [Chapter 4, Sections 12 *et seq.*] or the carrying out of geological studies (Sections 35 *et seq.*).

49. Sections 44 and 47 of the abovementioned act.

Nuclear Act, as modified in 2002, details the responsibilities of the *Länder* [Section 24]. As far as nuclear liability is concerned, Section 36 provides for the burden of compensation to be shared between the *Bund* and the *Länder*.

The existence of different national legal systems explains the diversity of the ways in which key concepts recognised internationally have been incorporated into the legal regime of each country. This national specificity must be reconciled with international standardisation resulting from a country's accession to a binding nuclear law international convention or from its undertaking to comply with non-binding standards. In particular, as regards the incorporation of essential concepts contained in an international instrument, attention must be paid to their translation into the national language. Apart from the choice to be made between several interchangeable terms – for example, “licence”, “authorisation” or “permit” – when a direct translation does not exist, an equivalent concept or notion has to be found.⁵⁰

Even if certain key concepts are repeatedly referred to at international level, the way in which they are inserted into the national legal system varies from one country to the next, as do the procedures for their implementation. To be included in nuclear legislation, these concepts must meet two conditions: they must be considered essential for the regulation of nuclear activities and be capable of incorporation into such legislation. If this second condition is to be met, their adoption by means of a nuclear law must correspond to national legal traditions.

For the first of the two conditions to be met, a policy decision must be taken, but, in view of the ethical problems involved in nuclear activities, the concept must have public support.

The choice of the key concepts to be included in a domestic nuclear law, may sometimes be the result of a policy decision dictated by historical circumstances. An example of this is Japan's decision, following the Second World War, to include non-proliferation among the primordial principles for the uses of nuclear energy: Japan's three “nuclear principles” required it not to possess or produce nuclear weapons or to permit their presence on its territory.

Apart from historical reasons, the decision whether or not to include a given concept in a nuclear law depends on ethical considerations and on public preference, given the nature of the risks associated with nuclear energy and the long-term consequences of any decision as regards priorities or the transposition into law of these priorities. A good example is radioactive waste management.

The short and medium-term management of radioactive waste is organised in many countries by means of legal procedures requiring a licence to carry out geological studies,⁵¹ and the obligation to ensure the safe management of waste storage or disposal facilities, which involves the control and regular monitoring of these facilities. However, over and above the technical aspects which may not be entirely mastered, the management of long-lived and/or high-level waste has an “ethical dimension the legitimacy of which is based on values considered by society as having priority”⁵² and which the lawmaker endeavours to transpose into law.

The difficulties which lawmakers encounter in “legislating for uncertainty”⁵³ show the importance of public debate and of consultative procedures which associate the public with

50. Stoiber C., Baer A., Pelzer N., Tonhauser W., *Handbook on Nuclear Law*, IAEA, Vienna, 2003, p. 21.

51. Swiss Act, *op. cit.*, Sections 35 *et seq.*

52. See Colson (J.P.), Schapira (J.P.), *op. cit.*

53. *Ibid.*

decision-making. Once fundamental policy has been decided, it is ultimately up to the government to “define its contours”.⁵⁴

Conclusion

The key concepts which ought to be included in legislation governing the peaceful uses of nuclear energy can be divided into two categories depending on whether they derive from the fundamental principles of nuclear law or reflect categories of general law. Their inclusion results in compliance with a shared obligation when they derive from a binding international instrument. It also permits the transposition into law of broader nuclear concepts and principles, and the more specific characteristics of a general nuclear law, which is to lay down priorities.

When the resulting classification is tested in reality, we can see that it is difficult to measure the effectiveness of the two concept categories inasmuch as this depends not only on quantifiable and controllable legal elements but also on non-legal behavioural factors, an obvious example of which is safety culture. Once the difficulties of defining a legal framework for nuclear activities and selecting the key concepts to guide them are known, the inclusion of a concept in a general nuclear law is determined by national legal and ethical considerations.

Thus, a general nuclear law should indicate the way in which the legal principles which reflect various prevailing ethical imperatives with regard to the environment, participation, and public interest, are applicable to the development of the peaceful uses of nuclear energy, having regard to the national specificities of each country and the particular nature of these activities. This means that there is a need to find original legal solutions reconciling the constraints of a specific law with the requirements of the ordinary law, i.e. the key concepts deriving from the principles of nuclear law. Given the possible reluctance of lawmakers⁵⁵ to commit themselves for the future by formulating detailed provisions valid over the long term, it has been suggested that a code of good practice⁵⁶ for the nuclear industry should be introduced which would go beyond the nuclear safety aspects, with the twofold advantage of supplementing the regulations with voluntarily accepted behavioural obligations, and meeting the ethical concerns raised by nuclear energy.

54. Granet, “*Principe de précaution et risques d’origine nucléaire : quelle protection pour l’environnement ?*”, in *Journal du droit international*, No. 3, 2001.

55. Chapal P., “*Recherche sur la notion et le régime des actes juridiques à caractère prospectifs*” in *Actualité juridique de droit administratif*, June 1968.

56. Centre for Studies and Research in International Law and International Relations, *op. cit.*, p. 201. Mention should be made here of the good practice standards for the civil nuclear industry formulated by the International Nuclear Law Association.

Argentina

*Proceedings before the Federal Criminal Court of First Instance Concerning Environmental Radiological Contamination near the Ezeiza Centre (2005)**

Allegations made in a daily newspaper by an environmental association in Argentina concerning possible radiological contamination of groundwater by releases from wells located in the vicinity of the Ezeiza Nuclear Research Centre, located 40 kilometres from Buenos Aires, resulted in a prosecutor referring these questions to the Federal Criminal Court of First Instance for investigation.

The federal criminal judge nominated a professional geologist as an expert witness to carry out tests on water samples. The analysis was carried out in the laboratories of the Nuclear Regulatory Authority (ARN). The expert witness concluded in late December 2004¹ that the water consumed by almost a million persons in the vicinity of the nuclear installation was contaminated with radioactive elements (enriched and depleted uranium) and therefore not fit for human consumption. This information caused great anxiety amongst the local population and gave rise to many public meetings. The ARN issued a rebuttal to this expert's report and suggested that an IAEA evaluation was necessary.

The Argentinian government, at the request of the Nuclear Regulatory Authority, asked the IAEA to verify that the international safety standards for radiation protection of the public in the area of the Ezeiza plant were being observed. In response to this request, the IAEA sent a fact finding mission to Argentina.

The IAEA's evaluation² established that "the ARN's report is technically sound ... and it presents credible conclusions related to the radiological public and environmental protection". It judged that the Expert Appraisal Report No. 6 referred to above contained deficiencies compromising the expert's conclusions. Amongst those deficiencies were inappropriate use of dose assessment methodology for radiation protection and incorrect use of international radiation protection standards and international health guidelines.

Following this evaluation, the Argentinean Federal Judiciary requested that an international expert appraisal be organised. Such international expert appraisals are organised by the IAEA in the form of an international fact-finding mission with the participation of such organisations as the World Health Organization (WHO), the Pan-American Health Organization (PAHO) and the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR).

* The information contained in this note is based upon the presentation by Ms. Cristina A. Dominguez before the INLA Congress held at Portoroz, Slovenia, in October 2005.

1. Expert Appraisal Report No. 6.
2. Its report of 28 April 2005.

The IAEA fact-finding mission conducted inspections at a number of locations and discussions were held with local officials in relation to technical aspects of the procedures for environmental monitoring, laboratory measurements and effluent management. On the basis of this mission, the IAEA considers that the requested international expert appraisal is unnecessary, given that there is no evidence that the international standards for radiation protection of the public have been violated and that the ARN has the technical capacity to make its own independent assessments. However, in light of the request emanating from the Argentinean federal judiciary and the consideration given to this request by the Argentinean government, the IAEA has undertaken to organise this expert appraisal in December 2005 and its report is expected in February 2006.

Canada

*Federal Court of Appeal Decision Respecting the McClean Lake Project (2004)**

In a judgement delivered on 4 June 2004, in the case of *Inter-Church Uranium Committee Educational Co-operative v. Canada (Atomic Energy Control Board) and Cogema Resources Inc* (2004 FCA 218), the Federal Court of Appeal of Canada allowed the appeals of the Atomic Energy and Control Board (AECB – now the Canadian Nuclear Safety Commission) and Cogema Resources Inc. (Cogema) against an order of the Federal Court of Canada (Trial Division) that quashed an operating licence (the Operating Licence) issued by the AECB for a uranium mill and tailings management facility known as the McClean Lake Project (the Project) (see *Nuclear Law Bulletin* No. 70).

Decision of the Federal Court of Canada (Trial Division)

The basis of the order of the Federal Court is that the licence was invalid because its issuance was not preceded by an environmental assessment under Section 5 of the Canadian Environmental Assessment Act, S.C. 1992, c. 37 (CEAA), the substantive provision of which came into force on 19 January 1995. The environmental assessment regime in place prior to that time was governed by the *Environmental Assessment and Review Process Guidelines Order*, SOR84-467 (the Guidelines).

In accordance with the Guidelines, there had been an Environmental Assessment Panel established to complete an environmental assessment of the Project. The assessment was completed prior to the coming into force of the CEAA. However, the Trial Division accepted, on an application for judicial review of the AECB's decision to issue an Operating Licence to Cogema in 1999, the Inter-Church Uranium Committee Educational Co-operative's argument that the transitional provisions of the CEAA did not operate to negate the necessity of a new environmental assessment under that Act.

The transitional provision at issue was subsection 74(1) of the CEAA, which provides:

The *Environmental Assessment and Review Process Guidelines Order*, approved by Order in Council P.C. 1984-2132 of 21 June 1984 and registered as SOR/84-467, shall continue to apply in respect of any proposal that prior to the coming into force of this

* This case note was kindly provided by Ms. Samantha Maislin Dickson, Counsel, Canadian Nuclear Safety Commission, Department of Justice. The author alone is responsible for the facts mentioned and opinions expressed therein.

section was referred to the Minister for public review and for which an Environmental Assessment Panel was established by the Minister pursuant to that Order.

The trial judge concluded that because Sub-section 74(1) did not provide any explanation as to what was to occur after a panel completed its work under the Guidelines, the process mandated by the CEAA had to be undertaken for the same project.

Decision of the Federal Court of Appeal of Canada

The Federal Court of Appeal disagreed with the trial judge's interpretation of the transitional provisions contained in subsection 74(1) of the CEAA. It accepted the interpretation of this provision propounded by the AECB and Cogema to the effect that a new environmental assessment under the CEAA was not required as one had been completed under the regime of the Guidelines. The Appeal Court relied on the principles of statutory interpretation respecting transitional principles, which include certainty, predictability, stability, rationality, and formal equality. The Appeal Court further indicated that the trial judge's interpretation of subsection 74(1) of the CEAA was not consistent with the object of that provision or the important objectives of the CEAA, namely the avoidance of unnecessary duplication of work, and the general understanding of environmental assessment as a planning tool to ensure that government decision makers consider environmental issues early in the planning process of projects [para. 45 and 46]. The Appeal Court allowed the appeals and set aside the order the Federal Court (Trial Division).

Supreme Court of Canada

On 24 March 2005, the Supreme Court of Canada denied leave to appeal by the Inter-Church Uranium Committee Educational Co-operative. This, in effect, resulted in upholding the Federal Court of Appeal decision and confirming the validity of the original licence issued by AECB to Cogema for the McClean Lake Project in accordance with a purposive interpretation of subs. 74(1) CEAA.¹ At this point in time, one could reasonably conclude that the Supreme Court of Canada agreed that the appellant's interpretation of subs. 74(1) CEAA would result in unnecessary duplication and would not be consistent with the legislative purpose of this section as a transitional rule.

Outlook

The decision from the Federal Court of Appeal was *de facto* upheld as a consequence of the denial of leave to appeal to the Supreme Court of Canada. The clarifications provided by the decision will certainly assist in the statutory interpretation of a transitional provision that has raised some legal and factual concerns in the past. The decision also reviewed and confirmed the validity of the environmental assessment process and some significant legal issues as it pertains to uranium mining projects in accordance with the *Canadian Environmental Assessment Act*. The decision has already been cited with approval by the Federal Court of Appeal in *Minister of the Environment and the Canadian Environmental Assessment Agency v. Bennet Environmental Inc.* [2005] FCA 261.

1. [2004] S.C.C.A. No. 388. The text of the decision of the Federal Court of Appeal is available on the website of the Federal Court of Canada at <http://decisions.fca-caf.gc.ca/fca/2004/2004fca218.shtml>.

France

Judgement of the Court of Appeal of Caen on the Licence to Reprocess Australian Spent Nuclear Fuel (2005)

On 12 April 2005, the Court of Appeal of Caen handed down a judgement which reversed, in part, the judgement of the County Court (*Tribunal de grande instance*) of Cherbourg of 3 February 2003 (see *Nuclear Law Bulletin* No. 71). The Cherbourg Court had rejected the claims of two associations (*Manche Nature* and Greenpeace France) which had taken out proceedings against the General Company for Nuclear Materials (*Compagnie générale des matières nucléaires – Cogema*) with a view to prohibiting the unloading and storage of German and Australian spent nuclear fuel at its factory in La Hague. They claimed that the licences necessary for reprocessing had not been delivered.

The licensing procedure for the reprocessing of nuclear fuel comprises two different licences:

- a licence in principle (*autorisation de principe*) through a decree which allows the operator to establish the reprocessing installation and to define its purpose and the list of materials which may be reprocessed there;
- an operating licence (*autorisation opérationnelle*) delivered by the DGSNR which approves the safety measures proposed by the operator for each reprocessing operation, and allows it to proceed; in most cases, this operating licence is delivered in two stages, the first of which deals with the reception, unloading and storage of spent fuel, and the second of which focuses on the actual reprocessing of the fuel.

Greenpeace France appealed this decision on 17 February 2003. The appellant claimed that the Australian spent fuel was waste pursuant to Articles L 541-1 and L 541-2 of the Environmental Code, rather than useful raw material, and therefore its storage in France, in the manner and under the conditions established by Cogema, went beyond the timeframe technically necessary for its reprocessing. Cogema was therefore in breach of Article L 541-2 referred to above.

In its judgement of 12 April 2005, the Court of Appeal of Caen considered that the spent fuel originating from the Australian research reactor HIFAR operated by ANSTO and stored in the La Hague Cogema installations pending its reprocessing, was radioactive waste subject to the regime established by Articles L. 542-1 et seq. of the Environmental Code.

On the same day on which the Court of Appeal handed down its judgement, Cogema had still not obtained a licence to reprocess that fuel, and therefore the Court judged that it was in breach of Article L 542-2 of the Environmental Code which provides that “the storage in France of imported radioactive waste, even if it has been reprocessed on national territory, may not be longer than is technically necessary for reprocessing”. The Court ordered Cogema to produce and provide to Greenpeace France, within a time limit of three months, a licence to reprocess the entire stock of nuclear fuel.

If Cogema does not produce this licence within the allowed timeframe, it will be required to terminate storage of such waste within a period of two months, failing which Cogema will be required to pay a penalty of EUR 1 500 per day.

Cogema has decided to appeal this decision. Deliberations will be held on 7 December 2005.

Judgement of the Magistrates' Court of Limoges Concerning the Dumping of Radioactive Waste by Cogema (2005)

The association *Sources et Rivières du Limousin* (Springs and Rivers of Limousin) took out proceedings in March 1999 against Cogema for pollution of various lakes and rivers in Haute-Vienne and the endangering of peoples' lives. The federation *France Nature Environnement* became another civil party to this action in March 2002. Tests carried out by the Independent Research and Information Commission (*Commission de recherche et d'information indépendantes* – CRII-RAD) and the Centre for the study of the metrology of nuclear radiation and dosimetry (*Centre d'étude de métrologie des rayonnements nucléaires et de dosimétrie* – CEMRAD) demonstrated chemical and radioactive contamination of sediment taken from several streams.

In an Ordinance of 18 August 2003, the examining judge (*juge d'instruction*) considered that the head of action involving the endangering of peoples' lives was not applicable. He ordered that the case be returned to the Magistrates' Court to be judged in respect of the dumping and water pollution offences. The instructing chamber of the Court of Appeal of Limoges decided on 25 March 2004 in favour of the examining judge (see *Nuclear Law Bulletin* No. 74).

The counter-appeal lodged by Cogema against this decision was rejected by the French Supreme Court (*Cour de cassation*) on 3 November 2004. The case was therefore returned to the Magistrates' Court to be judged in respect of the offences concerning the dumping of waste containing radioactive substances and water pollution causing damage to fish fauna.

In its judgement of 14 October 2005, the Magistrates' Court of Limoges discharged Cogema, considering that there was no proof of any of the accusations made.

With regard to the dumping of waste containing radioactive substances, the Court noted that each time a site was opened or closed, a prefectural order was issued specifying the standards applicable to the mine water discharged, and it considered that the ten-yearly environmental report produced by Cogema for the period 1994 to 2003 demonstrated that the average annual concentration in radium or thorium had always respected those limits, as established. Therefore there could be no offence of having dumped waste containing radioactive substances. Furthermore, it was not possible to prove a causal link between the discharged mine water at certain sites which, for ten years, did not go above prefectural limits, and the presence of radioactivity considered abnormal by the examining judge and third parties. Consequently, the Court ruled that Cogema could not be considered guilty of dumping radioactive waste.

As regards the damage to fish fauna, the Court noted that there was no proof of dumping or deliberate deposit by Cogema of the quantities of uranium discovered in the lake or river in question. As the two charges of dumping waste and damage to fauna are closely linked, Cogema could not be declared responsible for the quantity of uranium discovered in the fish found in that lake.

The two associations have asked the State Prosecutor to appeal this decision before the criminal courts as this recourse is not available to civil parties to the action.

Japan

Judgement of the Japanese Supreme Court Confirming the Validity of the Licence to Establish the Monju Reactor (2005)

On 30 May 2005, the Japanese Supreme Court pronounced its judgement, on appeal, in relation to a case filed by local residents calling for the closure, on safety grounds, of Japan's prototype fast-breeder nuclear reactor, Monju, located in Tsuruga, Fukui Prefecture. Monju supplied its first electricity to the grid in 1995, but a sodium leakage incident in December of that year led to the 280 MW unit being shut down. The Fukui District Court had rejected this lawsuit in March 2000 (see *Nuclear Law Bulletin* No. 65) and the Nagoya High Court reversed the ruling of that Court on appeal in January 2003 (see *Nuclear Law Bulletin* No. 71). The Nagoya High Court had specifically faulted the design and safety measures of the reactor which, in its view, were not sufficient to prevent leaking sodium from contacting concrete reactor structures and the design of the steam generators.

The Supreme Court overturned the ruling of the Nagoya High Court and confirmed the legitimacy of the licensing and safety review for Monju. Following the leak in 1995, extensive investigations were undertaken to determine the cause of the leak, and in December 2002 regulators approved a plan for reactor modifications to counteract the leak. Such modifications are expected to take approximately two years, followed by one year of testing to confirm the integrity and operation of the plant before its restart.

The main points of the judgement were as follows:

- the licence to establish the Monju reactor cannot be considered illegal or invalid because the examinations and safety reviews carried out by the Nuclear Safety Commission and the Committee on Examination of Reactor Safety were without obvious defect;
- the basic design of the plant and its safety measures are reasonable and justify the issue of a licence.

NATIONAL LEGISLATIVE AND REGULATORY ACTIVITIES

Algeria

Radiation protection

Decree on Protection Against Ionising Radiation (2005)

Presidential Decree No. 05-117, adopted on 11 April 2005, repeals any contradictory provisions set forth in the 1986 Decree on radiation protection and control of radioactive substances (see *Nuclear Law Bulletin* No. 44). Nevertheless, the 1986 Decree will remain in force for a maximum period of one year from the date of publication of the new decree in the Official Journal of the Republic of Algeria (hereinafter referred to as OJRA).

The 2005 Decree establishes general provisions on protection against ionising radiation during the production, handling, transportation, importation, transit, storing and disposal of radioactive substances. It contains regulations on the exposure of the public and radiation workers, medical exposure to ionising radiation, and exposure during emergency situations. Activities involving exposure to ionising radiation must comply with the justification, limitation and optimisation principles.

The decree establishes licensing procedures governing the possession and use of radioactive substances, and equipment producing ionising radiation for industrial, agricultural, medical and scientific purposes. Import and export of such substances and equipment must be licensed in advance by the Atomic Energy Commission. The validity period of the licence varies according to the nature and extent of the risks involved in each activity and cannot be issued for more than five years. The decree fixes the obligations of the owners/users of radioactive substances vis-à-vis the protection of radiation workers (restricted areas, self-protection and dedicated training for workers, regular medical exams, appointment of an expert in radiation protection) as well as dose limits for both radiation workers and the public.

Both sealed and unsealed sources must be identified and properly protected. They are subject to radiological and quality control. Sources must be returned to their supplier after use. Moreover, the decree specifies that the control of radioactivity on the national territory is carried out by the Atomic Energy Commission.

The decree also sets out the applicable provisions in the case of a radiological emergency. The user of ionising radiation sources must prepare an emergency plan for its installation, which must be approved by the Atomic Energy Commission and the competent civil protection services. Lastly, the decree specifies that radiation controls are carried out by the Atomic Energy Commission's protection inspectors.

Radioactive waste management

Decree on Radioactive Waste Management (2005)

Presidential Decree No. 05-119, adopted on 11 April 2005, contains provisions concerning the management of solid and liquid radioactive waste and gaseous waste matter produced by any activity that uses radioactive substances and nuclear materials. It sets out the responsibilities of all those involved in the different stages of radioactive waste management, as well as the administrative conditions applicable (possession of a licence issued by the Atomic Energy Commission). The decree also contains specific provisions for solid and liquid radioactive waste and sets out a classification of the different types of radioactive wastes in an annex.

Food irradiation

Decree on Food Irradiation (2005)

Presidential Decree No. 05-118, adopted on 11 April 2005 and published in the OJRA No. 27, regulates the treatment, control and trade of food treated by ionisation.

Every irradiation facility must comply with certain radiation protection requirements and hold a proper licence issued by the Atomic Energy Commission. A list containing the types of food susceptible of being irradiated and commercialised, as well as the absorbed doses for each type will be determined by joint decree issued by the Minister for Agriculture and the Minister for Trade.

The operator of an irradiation installation must ensure that its ionising operations are carried out according to a quality assurance programme, approved by the competent services of the Atomic Energy Commission and of the Ministry for Trade. The decree also specifies that each unit of irradiated food must be accompanied by an irradiation treatment certificate.

Armenia

Regime of nuclear materials

Government Decree Regulating the Licensing Procedure for Use of Ionising Generators, Radioactive Materials and Equipment containing Radioactive Materials (2004)

Decree N1751-N, adopted on 9 December 2004, regulates licensing procedures governing the use of ionising generators, radioactive materials, and equipment containing radioactive materials in accordance with the 2004 Licensing Law (see *Nuclear Law Bulletin* No. 73) and the 1999 Law for the Safe Utilisation of Atomic Energy for Peaceful Purposes (see *Nuclear Law Bulletin* Nos. 60, 63 and 75; the text of this law prior to its amendment in 2004 is reproduced in the Supplement to NLB No. 65).

Its purpose is to impose certain requirements when issuing a licence for activities involving a level of radioactivity equal to or above the exemption level.

In order to obtain such a licence (valid for a five-year period), any legal entity, manufacturer or physical person must submit an application form to the Armenian National Regulatory Authority (ANRA), accompanied by a certain number of documents, as listed in the decree.

ANRA then has 30 days to review the application and supporting documents, and to organise an inspection if deemed necessary. During the review period, the following is verified:

- compliance with this decree and other relevant legislation;
- applicant's right to undergo such activities;
- compliance with radiation protection rules and standards;
- qualifications and awareness of personnel in relation to implementation of the safety rules and standards, and of any other legal act on the use of nuclear energy.

The licence may be subject to extension, amendment or revocation according to the Licensing Law. The decree also provides for termination in certain specific cases. ANRA is responsible for supervising applications carried out under this licence.

Belgium

Organisation and structure

Act Amending the 1994 Act on Protection of the Public and the Environment Against Radiation and Relating to the Federal Agency for Nuclear Control (2005)

This act, adopted on 20 July 2005, amends certain provisions of the 1994 Act. In particular, it modifies Sections 49, 49 bis and 50 relating to the regime of penalties and inserts 16 new sections into the act.

Fines for breaches of the provisions of the act in war-time have been modified. An administrative fine system is also established, setting a specific fine for each offence. Violations will be recorded in a report established by a criminal investigation agent. This report is transferred to the royal prosecutor who chooses to impose a criminal or an administrative fine. If an offence bears a criminal penalty, any administrative procedure is excluded. Finally, new Sections 62 to 64 establish a simplified administrative procedure which may be applicable to offences not causing personal damage, with the agreement of the offender.

Brazil

Non-proliferation

Decree on the National Defence Policy Including the Elimination of Nuclear Weapons (2005)

This Decree No. 5484, adopted on 20 June 2005 and published in the Official Journal on 1 July 2005, aims to approve the national defence policy, including the elimination of nuclear weapons. Brazil, with a view to maintaining international peace and security and as a signatory of the Treaty on the Non-Proliferation of Nuclear Weapons – NPT, adopted this decree in implementation of Article VI of the Treaty which provides that “each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a Treaty on general and complete disarmament under strict and effective international control.”

Finland

Third party liability

Nuclear Liability Bill (2005)

The Nuclear Liability Bill was passed by the Finnish parliament in early June 2005 and was enacted by the president a few weeks later. The Nuclear Liability Act as amended will enter into force at a later date as determined by government decree. It will be published in a future Supplement to the *Nuclear Law Bulletin*.

The purpose of this bill is to amend the 1972 Nuclear Liability Act as amended (see previous *Nuclear Law Bulletins* on this subject; the text of the act as amended in 1989 is reproduced in the Supplement to NLB No. 44). The principal modifications are as follows:

- Finnish nuclear operators will require insurance coverage for a minimum amount of EUR 700 million; the liability of Finnish operators shall be unlimited in instances where the third tier of the Brussels Supplementary Convention (providing cover up to EUR 1.5 billion) has been exhausted and there remains damage to be compensated;
- the Council of State may decide on a lower amount of liability with regard to the transport of nuclear substances; however this amount may not be less than EUR 80 million. No other reduced liability amounts shall be applicable;
- nuclear damage shall be defined as per amended Article 1 of the revised Paris Convention;*
- Nuclear damage caused by acts of terrorism shall be covered by this legislation.

France

Radiation protection

Order on Professional Activities Using Raw Materials Containing Natural Radionuclides not Used for Their Radioactive Properties (2005)

This order, adopted on 25 May 2005 and published in the Official Journal on 1 June 2005, establishes a list of professional activities using raw materials naturally containing radionuclides not used for their radioactive properties (the list can be found in Annex 1). Operators of installations concerned are required to provide the General Directorate for Nuclear Safety and Radiation Protection (*Direction générale de la sûreté nucléaire et de la radioprotection* – DGSNR) with a study measuring natural ionising radiation exposure and estimating the public doses arising from the activities of these installations. Technical requirements for this analysis are set out in Annex 2 of the order.

The director of an installation carrying out an activity or category of professional activity as listed in Annex 1 is required to carry out a study of doses to which workers are exposed. The technical requirements for evaluating these doses are set out in Annex 3 of the order. This dose evaluation shall

* The text of the Paris Convention as last amended in 2004 is reproduced in the Supplement to NLB No. 75.

be sent to the Institute for Radiation Protection and Nuclear Safety (*Institut de radioprotection et de sûreté nucléaire – IRSN*).

Decree on Radiological Emergency Situations, Replacing Certain Provisions of the Public Health Code (2005)

Decree No. 2005-1179, adopted on 13 September 2005, modifies the provisions of the Public Health Code on radiological emergency situations. A radiological emergency situation is defined as an event which may lead to a release of radioactive materials or a level of radioactivity that may be hazardous to public health, in particular with regard to the dose limits and intervention levels established pursuant to Articles R. 1333-8 and R. 1333-80. The decree specifies that such an event may result from:

- an incident or accident caused by a nuclear activity as defined in Article L. 1333-1, including the transport of radioactive substances;
- a malevolent act;
- environmental contamination detected by the network to measure radioactivity in the environment;
- environmental contamination brought to the attention of the competent authority as defined in an international convention or agreement, or decision of the European Community, concerning information and radiological emergency.

The prefect is in charge of informing the general public of the radiological emergency situation, the manner in which they should react and the applicable health protection measures. A joint order of the Ministers for Health, the Interior and Public Safety provides instructions on the information of the public and the frequency of messages.

The decree also establishes which measures are to be taken by the prefect in the event of prolonged public exposure to ionising radiation.

Interministerial Order on the Application of the Convention on Early Notification of a Nuclear Accident and on the EU Council Decision on Community Arrangements for the Early Exchange of Information in the Event of a Radiological Emergency (2005)

This order, adopted on 30 May 2005, designates the competent national authorities and points of contact which are responsible for its application and implementation, in particular with regard to the preparation and issue of messages to other states, the IAEA and the European Commission.

The national point of contact is the Ministry for Foreign Affairs, which operates a permanent contact centre (department for diplomatic transmissions) for this purpose. The General Directorate for Nuclear Safety and Radiation Protection (*Direction générale de la sûreté nucléaire et de la radioprotection – DGSNR*), and the delegate for the nuclear safety and radiation protection of defence-related activities and installations (*délégué à la sûreté nucléaire et à la radioprotection pour les activités et installations intéressant la défense – DNSD*) are the competent national authorities.

Upon receipt from an EU Member State, a Party to the IAEA Convention or international bodies of a notification, pursuant to the IAEA Convention and/or the Council decision, concerning an

incident having taken place abroad, the national point of contact is required to immediately transfer this information to the DGSNR for action and the prime minister for information.

When an “incident”, as defined by the Interministerial Order of 7 April 2005 on the Action of the Public Authorities in the Event of an Incident Resulting in a Radiological Emergency Situation (see *Nuclear Law Bulletin* No. 75), occurs on national territory, the relevant competent national authority verifies the applicability of the IAEA Convention and the EU Council decision respectively, according to the information provided by the operator and the director of the emergency relief operations.

Should these international commitments, or one of the two, apply to the incident, the competent national authority:

- promptly notifies (or informs, accordingly) the relevant international entity/ies and states which may be affected of the incident, its characteristics, time of occurrence, location and measures carried out to protect the public when applicable. When the incident is under the responsibility of the DNSD, the Minister for Defence or Minister for Industry (depending on the case) must be informed prior to that notification;
- promptly provides affected states with any relevant information to minimise radiation hazards;
- provides the prime minister, the relevant ministers, the other competent national authority and the national point of contact with a copy of the notifications and information sent.

If the incident occurs abroad, the DGSNR shall judge the nature of the risk to the public and the environment and, if necessary, notifies immediately the national emergency management authorities.

The provisions set forth in this order do not affect the competences of the Interministerial Operational Centre for Crisis Management which, under the responsibility of the Minister for the Interior, serves as the contact point for the European Commission’s Monitoring and Information Centre.

Environmental protection

Order on the Organisation of a National Network to Measure Radioactivity in the Environment and on Criteria for the Certification of Laboratories (2005)

This order, adopted on 27 June 2005, repeals and replaces the Order of 17 October 2003 on the same subject (see *Nuclear Law Bulletin* Nos. 73 and 74).

Adopted pursuant to Article R. 1333-11 of the Public Health Code, it defines:

- the organisation of the national network to measure radioactivity in the environment;
- the criteria to be satisfied by laboratories certified to measure radioactivity in the environment.

The main change brought about by the Order of 27 June 2005 as compared to the Order of 17 October 2003 is that it defines the manner in which the results of measurements carried out by certified laboratories on the national network are notified. Thus, the operators or managers of sites on which nuclear activities are carried out, or local governments, state services and public bodies that

measure radioactivity in the environment pursuant to legislative or regulatory requirements, must have their measurements carried out by certified laboratories and notify the results to the Institute for Radiation Protection and Nuclear Safety (*Institut de radioprotection et de sûreté nucléaire – IRSN*) to be posted on the national network to measure radioactivity in the environment.

Local governments, state services and public bodies that, outside legislative or regulatory requirements and not in their capacity as operator or manager of a nuclear site, measure radioactivity in the environment using certified laboratories, are also required to notify the results to the IRSN.

The information which must be notified along with the measurements is specified in Annex 4 of this order.

Germany

Radiation protection

Act on the Control of High-activity Sources (2005)

With the adoption of the Act on the Control of High-Activity Sources on 12 August 2005 [*Bundesgesetzblatt* 2005 I, p. 2365; corr. 2005 I, p. 2976], Germany has implemented EU Council Directive 2003/122/Euratom of 22 December 2003 on the Control of High-Activity Sealed Sources and Orphan Sources [O.J. EU No. L 346 p. 57]. The implementation of this directive at national level entailed a number of amendments to the relevant legislation [Articles 1 to 4 of the act]:

- The Atomic Energy Act in its version of 1985 as last amended on 6 January 2004 [*Bundesgesetzblatt* 2004 I, p. 2]* – Sections 1, 23, 46, 54 – was amended, and a new Section 12d was introduced, obliging the Federal Radiation Protection Office to establish a register of high-activity sources.
- Amendments to the Radiation Protection Ordinance of 20 July 2001 as last amended on 18 June 2002 [*Bundesgesetzblatt* 2001 I, p. 1714, 2002 I, p. 1459, 1869] include changes to the transportation provisions [Section 17], and to the import, export and transit provisions [Sections 19 et seq.]. Disused high-activity sources are to be returned to the producer or any other licence holder [Section 69, paragraph 5], and there is a corresponding obligation to take back the sources [Section 69a]. Details of the register of high-activity sources are set out in Sections 70a et seq. The Annexes to the ordinance are partly redrafted.
- Amendments to the Financial Security Ordinance of 25 January 1977 as last amended on 18 June 2002 [*Bundesgesetzblatt* 1977 I, p. 220, 2002 I, p. 1869] include additional provisions dealing with financial security for high-activity sources [Sections 8 paragraph 1 and 20 sentence 2] and a modification of the table in Annex 2.
- The Ordinance on the Shipment of Radioactive Waste of 27 July 1998 as last amended on 20 July 2001 [*Bundesgesetzblatt* 1998 I, p. 1918, 2001 I, p. 1714] contains a new Section 1, Sentence 2 providing that it shall not apply to high-activity sources which are not used any longer or those which shall not be used in the future and are to be returned to the producer.

* The text of this act including amendments up to and including the amendment of 22 April 2002 was published in the Supplement to NLB No. 70.

The Act on the Control of High-Activity Sources entered into force in two steps pursuant to its Article 6: The act and its Article 1 (amendments to the Atomic Energy Act) entered into force on 18 August 2005; the amendments to the ordinances contained in Articles 2 to 4 entered into force on 19 August 2005.

Transport of radioactive materials

Ordinance on the Transportation of Dangerous Goods by Road and Rail (2005)

On 3 January 2005, a consolidated version of the Ordinance on the Transportation of Dangerous Goods by Road and Rail was published in *Bundesgesetzblatt* 2005 I, p. 36. The new version replaces the 2003 version as amended (see *Nuclear Law Bulletin* No. 73). It incorporates a number of amendments to the 2003 version [*Bundesgesetzblatt* 2003 I, p. 2286, 2004 I, pp. 454, 485, 3711] and in particular, modifications introduced by the 2nd Amendment Ordinance of 3 January 2005 [*Bundesgesetzblatt* 2005 I, p. 5]. That ordinance aims at implementing a number of EU directives, namely Commission Directive 2004/89/EC of 13 September 2004 [O. J. EU No. L 293 p. 14], Commission Directive 2004/110/EC of 9 December 2004 [O. J. EU No. L 365 p. 24], and Commission Directive 2004/111/EC of 9 December 2004 [O. J. EU No. L 365 p. 25]. The objective of all these directives is to adjust the legislation of EU Member States to technical progress in the field of the transportation of dangerous goods by road and rail.

Radioactive waste management

Ordinance on Establishing a Prohibition to Alter the Conditions of the Subsoil Within the Gorleben Salt Formation (2005)

An Ordinance of 25 July 2005 on Establishing a Prohibition to Alter the Conditions of the Subsoil within the Gorleben Salt Formation with a View to Securing Site Exploration for a Final Repository for Nuclear Waste was published in the *Bundesanzeiger* of 16 August 2005 No. 153a.

In order to secure exploration of this site, the ordinance establishes a land planning area in the region of Gorleben [Section 1]. In certain parts of that region, as defined in Section 1 paragraph 2, any measures which may considerably hamper the site exploration are prohibited. This applies to the subsoil 50 metres and more below the surface. With regard to other parts of the land planning area not defined in Section 1 paragraph 2, the prohibition applies to the subsoil 100 metres and more below the surface. There is a legal presumption that any alteration undertaken in the defined depth is a considerable impediment of the site exploration. Section 9g of the Atomic Energy Act, which provides that compensation may be paid to the owner or usufructuary of the real estate, may be applicable.

The ordinance entered into force on 17 August 2005 and will expire ten years after that date.

Hungary

Organisation and structure

Decree on the Procedures of the Hungarian Atomic Energy Authority in Nuclear Safety Regulatory Matters (2005)

Government Decree No. 89/2005 (V.5) Korm.,* which repeals and replaces Government Decree No. 108/1997 (VI.25) Korm. (see *Nuclear Law Bulletin* No. 60) as of June 2005, redefines the responsibilities of the Nuclear Safety Authority (NSA) of the Hungarian Atomic Energy Authority (HAEA).

This decree was substantially revised after lengthy negotiations to incorporate the most recent IAEA Safety Standards and to incorporate the findings of the IAEA Safety Review Mission.

The principal modifications are as follows:

- this decree shall apply to nuclear facilities, their related buildings, systems and equipment, and to activities related to nuclear facilities and parties involved in such activities. This includes, among others, the transport of radioactive materials within a facility, equipment for temporary storage of radioactive waste and physical protection equipment;
- it is now possible to issue a new licence for licensees wishing to extend the designed operating lifetime of units, provided a proper request is made to the NSA at least 4 years before the original licence's expiry date. The applicant must submit a programme of operations, which will then be supervised and inspected by the NSA;
- the NSA must issue a new licence in the event of legal succession concerning a former licensee;
- every time a unit is refuelled after general overhaul, the HAEA is required to issue a new licence;
- the licensee will not be held liable for ensuring the safety of the nuclear facility if that responsibility was assigned to another licensee, after the termination of his/her licence or after decommissioning of the nuclear facility;
- enhancement of safety culture is emphasised;
- applicants for a construction licence are required to submit a Preliminary Safety Report and applicants for a commissioning licence shall submit a Final Safety Report (which has to be updated on a yearly basis) to the NSA;
- the provisions of the decree are updated to ensure harmonisation with international emergency recommendations.

* In Hungarian, "Korm." is the abbreviation for "government".

Israel

Radiation protection

Amendment to the Pharmacists' Regulations (Radioactive Elements and Their Products) (2005)

The amendment to the Pharmacists' Regulations (Radioactive Elements and their Products) 1980, entered into force on 20 February 2005.

The regulations cover the control of all aspects of ionising radiation by means of a licensing system. The production, import, purchase, usage and disposal of radioactive isotopes, radiation emitting devices, radioactive facilities, and products containing radioactive materials are governed by this instrument. The regulations are the responsibility of the Ministry of the Environment, and are supervised by both the Ministry of the Environment and the Ministry of Health, through their respective "chief radiation officers" appointed by the ministers.

The principal modifications to these regulations are as follows:

- criminal liability: non compliance with the regulations becomes a criminal offence;
- protection of the public in accordance with the IAEA Basic Safety Standards (BSS): licence conditions will ensure that members of the public will not be exposed to radiation exceeding the relevant radiation dose limits set forth in the IAEA's International Basic Safety Standards for Protection against Ionising Radiation and for the Safety of Radiation Sources;
- applications for licences: changes have been introduced as to the documentation the applicant must submit to the chief radiation officer.

Nuclear trade

Import and Export Order (Control of Chemical, Biological and Nuclear Exports) (2004)

The Import and Export Order (Control of Chemical, Biological and Nuclear Exports), 2004, entered into force on 1 July 2004. The order deals, *inter alia*, with export controls in the nuclear field, and it aims to assist in maintaining peace and stability and in preventing terrorism and the proliferation of non-conventional weapons.

The order makes punishable by law the export of goods, technology or services, with the knowledge that they are intended for use in the development or production of nuclear weapons. It comprises lists of source materials and dual-use materials which are subject to export control. The lists are based on those established by international regimes and conventions in the nuclear field. Export of such goods, technology or services is prohibited unless a licence is granted by the Ministry of Industry, Trade and Labour.

Republic of Korea

Regime of radioactive materials

Act on Physical Protection and Radiological Emergency (2004)

This act was adopted on 15 May 2003 and brought into force by Presidential Decree No. 18341 of 29 March 2004 and by Ordinance of the Ministry of Science and Technology (MOST) No. 55 of 20 May 2004. It aims to enhance nuclear security and emergency preparedness in nuclear facilities. The act is divided into two main parts dealing respectively with the physical protection of nuclear materials and civilian nuclear facilities, and radiological disaster management measures.

The first part of the act provides that the government shall assess on a regular basis threats against nuclear facilities and shall establish a physical protection system. A Physical Protection Council of Nuclear Facilities will be established under the supervision of the MOST. It will be responsible *inter alia* for national physical protection policies, establishment and evaluation of the physical protection system and co-operation among institutions concerned for the implementation of that system. Local protection councils are also established pursuant to the act.

Physical protection policies include protection against illicit trafficking of nuclear materials, measures to find and retrieve lost or stolen nuclear materials, prevention of sabotage of nuclear facilities and measures to address any radiological impact resulting from the sabotage of nuclear facilities. Nuclear materials subject to physical protection are classified as Grade I, II or III according to the degree of potential risk. The act sets out the responsibilities of nuclear licensees as regards physical protection and the role of the MOST in relation to inspections.

As regard the second part of the act dealing with radiological disaster management measures, it refers to the obligations of Korea under the Convention on Early Notification of a Nuclear Accident and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency. It differentiates between three different types of emergencies: alert, site area emergency and general emergency. The MOST is in charge of the preparation of a national radiological emergency plan which will be submitted to the prime minister and the Central Safety Committee and then be communicated to the competent authorities at local and regional level. Heads of local government shall establish local radiological emergency plans.

The act also sets out the obligations of nuclear licensees in relation to the establishment of a radiological emergency plan and its approval by the MOST, submission of reports in relation to its establishment and implementation, disaster prevention and management measures, and disclosure of information.

A National Emergency Management Committee will be set up and headed by the MOST. It will be responsible for any urgent action to adopt in relation to radiological emergency management. This committee will be composed of the deputy ministers of various ministries and representatives of central administrative agencies. Local emergency management centers shall also be established. Provision is made for the organisation of radiological emergency exercises and the establishment of a national radiological emergency medical system.

Poland

Radiation protection

Regulation on Ionising Radiation Dose Limits (2005)

This regulation, adopted by the Council of Ministers on 18 January 2005, defines the dose limits for certain categories of radiation workers and for the public. It repeals and replaces the former regulation of 28 May 2002 of the same name.

Dose limits for workers expressed in terms of effective doses are equal to 20 mSv per calendar year, with a maximum of 50 mSv in any one given calendar year and a maximum of 100 mSv in five consecutive calendar years. Equivalent doses are established for specific parts of the body. Exceptions apply for pregnant women and nursing mothers, students, apprentices and trainees.

Dose limits for members of the public expressed in terms of effective dose shall be equal to 1 mSv per calendar year. Again, equivalent doses are established for specific parts of the body.

The regulation sets out details on how such doses are to be measured and calculated, in particular when taking into account the values of natural background radiation or other exposures. The use of dose measurements from available reference groups is required for determining doses to members of the public.

An annex sets out quantities and values of indices enabling the determination of doses used for exposure assessment.

Regulation on Positions for Ensuring Nuclear Safety and Radiological Protection and on Radiological Protection Inspectors (2005)

This regulation, adopted by the Council of Ministers on 18 January 2005, sets out various requirements for personnel responsible for nuclear safety and radiological protection within nuclear installations, and also for radiological protection inspectors. It repeals and replaces the former regulation of 6 August 2002 of the same name.

It specifies the required qualifications and qualities necessary for each post concerned, covering a wide spectrum of issues including physical and mental health, education and work experience, examination requirements and training.

Portugal

Organisation and structure

Decree-Law Setting up the Independent Commission for Radiological Protection and Nuclear Safety (2005)

Decree-Law No. 139/2005, adopted on 17 August 2005, repeals and replaces Decree-Law No. 311/98, adopted on 14 October 1998 (see *Nuclear Law Bulletin* No. 63). This decree establishes an Independent Commission for Radiological Protection and Nuclear Safety (ICRPNS), replacing the old commission of the same name.

The ICRPNS is an independent technical entity responsible for supervising the different bodies involved in radiation protection and nuclear safety. It is comprised of five *pro bono* members appointed by the prime minister, to whom it reports.

The new Commission inherits the responsibilities of its predecessor, namely:

- drafting bills and regulations in the fields of environment, health, science and technology;
- verifying compliance with licences for the storage, production or transport of radioactive material and equipment, and for the operation of nuclear installations generating radioactive residues or nuclear waste;
- guaranteeing compliance with international standards on radiological protection and nuclear safety;
- co-operating with foreign bodies and international organisations working in this field;
- assisting in the preparation of national radiological and nuclear emergency plans.

It is also given the following new tasks:

- verifying and evaluating the conditions for the application of inspection and control legislation;
- issuing recommendations to the competent bodies on inspections, monitoring measures and all other necessary means to guarantee the protection of workers and the general public against nuclear and radiological risks;
- validating data to be notified to European or international institutions (with the exception of data in relation to radiological emergencies).

Environmental protection

Decree-Law Establishing the Environmental Monitoring System of Radioactivity (2005)

Decree-Law No. 138/2005, adopted on 17 August 2005 in implementation of Articles 35 and 36 of the Euratom Treaty, establishes the environmental monitoring system of the level of radioactivity in the air, water and soil; and sets up the national control network. The decree entered into force on 18 August 2005.

The decree provides that the Nuclear and Technological Institute shall be responsible for monitoring levels of radioactivity in the air, water and soil, and shall carry out samples as necessary. It shall also inform the European Commission of the results of its monitoring in accordance with requirements set out in this decree.

Romania

Radiation protection

Order on Methodological Norms Regarding Planning, Organisation and Intervention in the Event of a Nuclear Accident or Radiological Emergency (2005)

This Order No. 684 was adopted by the Minister of Public Administration and the Interior and was published in the Official Gazette of Romania Part I, No. 485 on 8 June 2005. These norms shall apply in the following circumstances:

- industrial, medical, traffic or fire occurrences involving radioactive sources; accidental discharges of, loss of or illicit trafficking in radioactive sources;
- accidents involving foreign nuclear installations, including nuclear-powered ships, which have transboundary effects;
- re-entry into the atmosphere of satellites with nuclear generators or other radiation sources aboard;
- accidents involving nuclear weapons;
- threats of terrorist attacks involving nuclear or radioactive devices;
- accidents involving national nuclear installations other than nuclear reactors.

The norms establish the responsibilities of central and local authorities, as well as nuclear licence-holders, in relation to the drafting of emergency plans.

Order Approving Generic Procedures for Data Collection, Validation and Response During a Radiological Emergency (2005)

Order No. 683 was issued on 7 June 2005 by the Minister of Public Administration and the Interior and published in Official Gazette Part I, No. 520 on 20 June 2005.

The procedures are designed as a handbook for central and local authorities and for licence-holders on their responsibility to protect the general public and workers during a radiological emergency in accordance with international recommendations. They include requirements on the following:

- limitation of risk and the after-effects of accidents;
- prevention of harmful effects (immediate or future) to public health by taking appropriate measures before or shortly after the exposure and maintaining the individual exposure for the general public or personnel below the accepted limits;
- reducing the risk of delayed effects upon human health by implementing protective measures in accordance with the IAEA recommendations and by maintaining the exposure of the intervention personnel below the accepted limits.

Environmental protection

Order on the Norms Regarding the Release of Radioactive Effluents into the Environment (2005)

Order No. 221, issued on 25 August 2005 by the chairman of the National Commission for Nuclear Activities Control (CNCAN) and published in Official Gazette Part I, No. 280 on 9 September 2005, sets out principles and general requirements regarding the release of liquid and gaseous radioactive effluents into the environment.

The norms are applicable to all procedures that, during normal operations, involve the release of liquid or gaseous radioactive substances – in limited quantities and concentrations – into the environment. In particular, they apply to procedures involving nuclear power plants, research reactors, radioactive waste treatment and conditioning facilities, mining and processing of uranium and thorium ores, processing of nuclear raw materials and production of nuclear fuel, as well as medical, industrial and research procedures involving the release of radioactive effluents.

Slovenia

Radiation protection

Regulation on Requirements for Workers in Nuclear Installations and Radiation Facilities (2005)

This regulation was adopted on 17 June 2005 [Official Gazette RS 74/05]. It determines the positions and tasks for which workers involved in nuclear safety operations must fulfil certain requirements and defines in detail such requirements (professional qualifications, psychological and physical examination etc.). It also sets out methods for the examination of the fulfilment of these requirements, including establishment of a commission for this purpose.

Regime of radioactive materials

Regulations on Physical Protection of Nuclear Materials, Nuclear Installations and Radiation Facilities (2005)

These regulations were adopted on 15 March 2005 [Official Gazette RS 31/05]. They establish a classification of nuclear materials, nuclear installations and radiation facilities (with radiation sources of significant activity) in relation to possible consequences of criminal acts. They also set out the appropriate degree of physical protection measures applicable to each category, and also for nuclear materials in transit. A regulation was also adopted on 15 March 2005 on the working conditions of physical protection workers.

South Africa

*Recent regulatory developments in the nuclear field in South Africa**

In South Africa, nuclear activities are regulated by the National Nuclear Regulator Act of 1999 (Act No. 47 of 1999; see *Nuclear Law Bulletin* No. 65), which was established to provide for, *inter alia*, safety standards and regulatory practices for the protection of persons, property and the environment against nuclear damage. This information note will focus on the recent regulations issued under the National Nuclear Regulator Act; and in particular the regulations requiring a nuclear installation licence holder to establish a Public Safety Information Forum.

Introduction

Prior to the advent of the National Nuclear Regulator Act of 1999 (hereinafter referred to as the NNR Act), the Nuclear Energy Act of 1993 (Act No. 131 of 1993; see *Nuclear Law Bulletin* No. 53) provided for the continuation of the Atomic Energy Corporation and the Council for Nuclear Safety established by Sections 2 and 24, respectively, of the Nuclear Energy Act of 1982 (Act No. 92 of 1982; see *Nuclear Law Bulletin* No. 35).

The 1993 Nuclear Energy Act repealed the 1982 Act. The objectives of the Atomic Energy Corporation were, amongst others, to develop and promote the development of nuclear technology and related expertise in the field of nuclear energy. On the other hand, the objectives of the Council for Nuclear Safety under that same legislation were, with a view to the safeguarding of persons against nuclear damage, to regulate and exercise control, through the issue of nuclear licences, over certain activities. The 1993 Act covered both the promoter and the regulator of nuclear energy in one piece of legislation. This position was undesirable.

The NNR Act came into effect on 24 February 2000. Section 54(1) of the NNR Act repealed the provisions of the 1993 Nuclear Energy Act relating to the Council for Nuclear Safety.¹

The NNR Act established the National Nuclear Regulator [Section 3] to regulate nuclear activities. 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 [Section 5(a)]. One of the functions of the Regulator is to advise the Minister of Minerals and Energy (the Minister) on matters associated with any action or condition which is capable of causing nuclear damage; or on issues which the Minister refers to the Regulator or on which the Regulator thinks the Minister requires advice [Section 7(g)].

Chapter 3 of the NNR Act deals with nuclear licences and Section 26(4) in particular provides that the holder of a nuclear installation licence must establish a public safety information forum.

* This information note was kindly provided by Mr. Nathan Gift Nhlapho, Legal Adviser of the National Nuclear Regulator in South Africa. The author alone is responsible for the facts mentioned and opinions expressed herein.

1. Chapters V (Council for Nuclear Safety), VI (Licensing of Nuclear Activities), section 1, insofar as it relates to anything in any of these chapters; and the provisions of Chapter VII, in so far as they relate to the Council for Nuclear Safety).

Chapter 5 of the NNR Act relates to Safety and Emergency Measures. Section 36 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. Before any such regulations are made the Minister must, by notice in the *Gazette*, invite the public to comment on the proposed regulations and shall then consider that comment [Sections 36(1) and (2)].

Section 38 of this chapter provides for emergency planning and subsection (4) thereof provides that the Minister may, on the recommendation of the Board and in consultation with the relevant municipalities, make regulations on the development surrounding any nuclear installation to ensure the effective implementation of any applicable emergency plan.

Section 47(1) provides that the Minister may, after consultation with the Board and by notice in the *Gazette*, make regulations on any matter required or permitted to be prescribed in terms of the NNR Act and/or as necessary for the effective administration of the NNR Act [Section 47(1)(a) and (b)]. Section 47(2) provides that any regulation made pursuant to Section 47(1) may provide that any failure to comply therewith is an offence punishable with a prescribed fine or term of imprisonment. Section 47(3) provides that before any regulations are made pursuant to Section 47(1), the Minister must, by notice in the *Gazette*, invite comment on the proposed regulations and shall then consider that comment.

This paper shall focus in particular on two regulations in force, on the public safety information forum and on the development surrounding any nuclear installation.

Public Safety Information Forum (PSIF)

Section 26 of the NNR Act provides for the responsibilities of nuclear installation licence-holders. Section 26(4) provides that the holder of a nuclear installation licence must establish a public safety information forum as prescribed in order to inform persons living in the municipal area in respect of which an emergency plan has been established pursuant to Section 38(1) of the act on nuclear safety and radiation safety matters.

Pursuant to Section 47 of the NNR Act the Minister, after consultation with the Board, published regulations on the establishment of such PSIFs. These regulations were published in *Government Gazette* No. 26112 of 12 March 2004.

Regulation 3 provides that nuclear installation licence-holders are required to:

- establish a public safety information forum pursuant to Section 26(4);
- provide a venue and facilities for meetings of the forum;
- provide a secretariat to facilitate the proper functioning of the forum;
- provide information to the forum, with due regard to Section 51 of the act, on nuclear/radiation safety matters, including but not limited to nuclear incidents/accidents; and
- cover the costs related to the establishment and management of the forum.

Regulation 4 provides for the manner in which the PSIF shall operate. A Chairperson and Deputy Chairperson must be elected by open ballot from the members of the public living in the relevant municipal area, and shall perform their duties without payment. Further provisions sets out

obligations in respect of the regularity of meetings, advance notice of date, time, and venue, record-taking at those meetings and invitations to various bodies.

Development surrounding Nuclear Installations

Section 38(4) of the NNR Act provides that the Minister may, on the recommendation of the Board and in consultation with the relevant municipalities, make regulations on the development surrounding any nuclear installation to ensure the effective implementation of any applicable emergency plan.

On 5 March 2004 the Minister, pursuant to Section 38(4) read in conjunction with Section 47 of the NNR Act, published regulations in the *Government Gazette* No. 26121 on the development surrounding any nuclear installation to ensure the effective implementation of any nuclear emergency plan (the Development Regulations).

Regulation 3 obliges the Regulator to lay down specific requirements regarding development surrounding a nuclear installation. This regulation provides that the Regulator shall lay down, where appropriate, specific requirements relating to the control and/or monitoring of development within the formal emergency planning zone surrounding a specific nuclear installation, after consultation with the relevant provincial and/or municipal authorities.

Regulation 2 defines “relevant provincial and/or municipal authorities” to mean any province and/or municipality with responsibilities for development and/or disaster management, as the case may be, in the area within which the formal emergency planning zone of a nuclear installation, as defined by the Regulator, falls.

The Development Regulations impose certain responsibilities on relevant provincial and/or municipal authorities. Regulation 4 provides that these authorities must:

- develop and implement processes, based on the requirements pursuant to Section 3, including associated acceptance criteria, to conduct periodic assessment of:
 - current and planned population development;
 - disaster management infrastructure; and
 - new development;
- to ensure that the emergency plan, as set out in Section 38 of the act, can be implemented effectively at all times;
- document the processes contemplated in subsection 4(a) in procedures established by the Regulator; and
 - report to the Regulator on the implementation and the results of the monitoring processes at intervals acceptable to the Regulator.

Regulation 2 defines “disaster management infrastructure” to mean all infrastructure and services necessary for the implementation of an emergency plan, including but not limited to public communication, transport, personnel, mass care and medical care.

Regulation 5 provides that failure to comply with these regulations shall constitute a criminal offence as set out in Section 52 (2) of the act.

Sweden

Regime of nuclear installations

SKI Regulations on Physical Protection of Nuclear Facilities (2005)

New SKI Regulations on Physical Protection of Nuclear Facilities [SKIFS 2005:1], adopted by the Swedish Nuclear Power Inspectorate (SKI) Board on 24 August 2005, complement the 2004 SKI Regulations on Safety in Nuclear Facilities (see *Nuclear Law Bulletin* No. 74) and replace certain licensing provisions concerning physical protection of nuclear facilities.

Partly due to the increased threat of large-scale terrorism since 11 September 2001, the regulations are based on the existence of new and aggravated threats in relation to hazardous facilities, requiring them to abide by stricter measures in order to protect themselves against aggressors. The regulations are also in conformity with international recommendations and the amended Convention on the Physical Protection of Nuclear Material.

The regulations concern all licensed nuclear facilities, such as nuclear power plants, fuel fabrication facilities, research reactors, facilities for the storage or handling of nuclear material or nuclear waste and facilities for interim storage or final repository of spent nuclear fuel. Facilities are classified into one of three categories, where category one is considered the most sensitive and has the most far-reaching requirements (e.g. nuclear power plants and facilities for interim storage of spent nuclear fuel).

These regulations contain provisions on all aspects of physical protection, including requirements and definitions on perimeter and protected area, increased demands on vehicle barriers, detection and verification, security screening of persons and vehicles, central alarm station and central control room, IT-security and protection of information on safety and security measures in general.

Most of these new regulations will enter into force in January 2007, although those setting out requirements in relation to more extensive measures, e.g. construction of new buildings and change of infrastructure on site, will enter into force in January and October 2008.

Radioactive waste management

Guidance for Geological Disposal of Nuclear Waste (2005)

Decision SSI FS 2005:5, adopted on 5 September 2005 and containing Guidance for Geological Disposal of Nuclear Waste in Sweden, was issued by the Swedish Radiation Protection Authority (SSI) in implementation of SSI's 1998 Regulations on the protection of human health and the environment in connection with the final management of spent nuclear fuel and radioactive waste. As the radiation protection regulations provide the ultimate standard for final disposal of nuclear waste in Sweden, this guidance will be an important basis for current and future licence applications.

In the guidance, SSI develops important aspects for complying with the regulations, including best available technique (BAT), optimisation, risk limit and risk analysis.

BAT and Optimisation

In order to comply with SSI regulations, the licence-holder should take into consideration possible means of improving the expected performance of the repository system. Optimisation and BAT are two tools to evaluate this and should be used in parallel. Optimisation is defined as a tool to minimise risk based on the results of risk calculations. BAT focuses on the basic barrier functions of the repository system, aiming to hinder, reduce and delay releases of radioactive substances from both the engineered and the geological barriers. This means that, at every step during siting, design, construction and operation of the repository system, the licence-holder should aim for the best possible solution.

Criteria for the Protection of Human Health and the Environment

SSI's regulations state that the annual risk of lethal or harmful effects should not exceed 10^{-6} for a representative individual in the group exposed to the greatest risk. In the guidance, SSI presents different ways to show compliance with this risk criterion, depending on the size of the exposed group and exposure pathways.

The fact that the human health criterion is expressed in the form of an annual risk implies that both the probability and the consequences of potential future radiological exposures from the repository have to be taken into account. SSI's guidance does not, however, require a strict probabilistic approach to the risk analysis: both deterministic and probabilistic methods, or combinations of the two, may be used.

The safety case should also include an evaluation of possible effects to the environment. Calculations of concentrations of radioactive substances in the environment can provide a basis for such an evaluation.

Switzerland

Third party liability

*Draft Act on Nuclear Third Party Liability (2005)**

Following the adoption of the new Federal Act on Nuclear Energy (see *Nuclear Law Bulletin* No. 75), which entered into force on 1 February 2005, the Federal Council instructed the Federal Department of the Environment, Transport, Energy and Communications (DETEC) to prepare a draft amending act on nuclear third party liability to implement the Paris and Brussels Supplementary Conventions as amended by their Amending Protocols of 12 February 2004.

On 29 June 2005, the Federal Council decided to open a consultation procedure on this act, which continued until 31 October 2005.

The draft amending act aims to provide improved protection to victims of nuclear damage in two different ways. First, the draft increases the cover for nuclear damage to CHF 1 billion

* This information note was kindly submitted by Mr. Patrick Cudré-Mauroux, legal adviser at the Swiss Federal Energy Office. The author alone is responsible for the facts mentioned and opinions expressed herein.

(EUR 700 million). Secondly, it allows the Swiss Confederation to ratify the Paris Convention and the Brussels Supplementary Convention, as amended, as well as the Joint Protocol of 1988 on the Application of the Vienna Convention and the Paris Convention (hereinafter referred to as the Joint Protocol).

The basic principle of the unlimited liability of the operator of a nuclear installation (strictest liability: in Swiss law, *responsabilité objective aggravée*) which is already in the current legislation (see *Nuclear Law Bulletin* No. 71; the text of the act is reproduced in the Supplement to NLB No. 32) has been retained in the amending act.

In order to provide increased protection to victims and to respect the international rules on the subject, the minimum amount of cover is established in the draft [Section 8(2)] at CHF 2.25 billion (EUR 1.5 billion) to which 10% should be added in respect of interest and costs, in comparison with CHF 1 billion currently available (EUR 700 million; Section 12 of the Act on Nuclear Third Party Liability).

This amount is broken down as follows: for damage which can be covered by private insurance, the operator of a nuclear installation must obtain cover of at least CHF 1 billion [plus 10% for interest and costs; Section 9(1) of the draft]. Private coverage can take the form of insurance or other financial guarantee, as long as the latter offers the same guarantees for persons having suffered damage. In the event that damage goes beyond the amount of private coverage, or if it is not available, or if it does not allow indemnification, the Confederation is obliged to cover the damage up to CHF 2.25 billion [plus 10% for interest and costs; Section 10 of the draft].

This is the same for risks excluded from private insurance, such as extraordinary natural phenomena, acts of war or claims which are time-barred. In these cases, only the Confederation cover will apply. Consequently, the Confederation has established a fund composed of contributions from nuclear installation operators in order to fulfil its obligations.

Furthermore, the amounts of CHF 1 billion and 2.25 billion (EUR 700 million and EUR 1.5 billion respectively) are in total conformity with those set out in the revised Paris Convention (EUR 700 million) and in the revised Brussels Supplementary Convention (EUR 1.2 billion, for the first two tiers under Article 3(b)(i) and (ii) of the BSC).

The draft amending act also amends the prescription periods and rules regarding the time-barring of claims. The Act on Third Party Liability currently in force only provides for one prescription period of 30 years, irrespective of the type of damage suffered [Section 10(1) of the Act on Third Party Liability]. Following the differentiation made in the Paris Convention between death and personal injury on the one hand, and other damage on the other, the difference is made as follows: where there is a 30-year prescription period for all damage, claims for death or personal injury shall take priority over claims for other damage when such claims are made over ten years after the nuclear incident. These rules give effect to Article 8 of the Paris Convention [in particular, Article 8(b) and (c)].

The consultation procedure having closed, remarks and requests for correction will be examined and the draft act will be amended consequently. When the draft act is finalised, it will be submitted to parliament, probably at the beginning of 2007. The parliament will then be required to vote on the amendment of the Act on Third Party Liability and on the ratification, by Switzerland, of the Paris Convention and the Brussels Supplementary Convention, along with the Joint Protocol.

The text of the draft act, along with its explanatory report, can be consulted (in French, German or Italian) on the Web site of the Federal Energy Office at the following address: www.energie.schweiz.ch/internet/00529/

Ukraine

Regime of nuclear installations

Law on the Decision-making Procedure Applicable to the Siting, Design and Construction of Nuclear Installations and Radioactive Waste Management Facilities (2005)

This law, adopted on 8 September 2005, sets out issues in relation to the form of decision-making on the siting, design and construction of nuclear installations and radioactive waste facilities, the reasons upon which such decisions can be based, public and local government involvement in discussions, and parliamentary review of such decisions.

The law applies to nuclear installations and radioactive waste management facilities considered to be of national importance, namely nuclear power plants and research reactors, nuclear heat supply plants, facilities for the storage or disposal of radioactive waste or spent fuel, and radioactive waste reprocessing facilities.

Decisions concerning siting, design and construction of such installations shall be made by the Ukrainian parliament with the agreement of local governments and executive authorities as regards their location. Decisions on location shall be based on the results of public referendum.

United States

General legislation

*Energy Policy Act (2005)**

On 8 August 2005, President Bush signed into law the Energy Policy Act of 2005 which includes “Nuclear Matters” at Title VI with provisions amending the Atomic Energy Act of 1954 (AEA) 42 U.S.C.¹ 2011 et seq. (see *Nuclear Law Bulletin* Nos. 7 and 14). This is the first national energy plan in the United States in more than a decade.² In summary of major aspects:

Subtitle A – The Price-Anderson Act Amendment:

- extends indemnification authority of the Nuclear Regulatory Commission and Secretary of Energy under the AEA until 31 December 2025; provides that the Department of Energy’s liability limit – above any required amount of financial protection – is

* This information note was kindly provided by Ms. Sophia Angelini, Attorney Adviser at the Office of Civilian Nuclear Programs of the US Department of Energy. The author alone is responsible for the facts mentioned and opinions expressed herein.

1. U.S.C. = United States Code.

2. See www.whitehouse.gov/infocus/energy/

USD 10 billion, subject to adjustment for inflation, for each nuclear incident, including legal costs;

- increases the maximum indemnity provided by the Secretary in case of “nuclear incidents” outside the United States from USD 100 million to USD 500 million;
- clarifies the treatment of modular reactors as a single facility or multiple facilities - two or more facilities located at a single site, each having a rated capacity of 100 000 electrical kilowatts or more but not more than 300 000 electrical kilowatts, will be considered a single facility; and
- provides that, for contracts entered into as of 8 August 2005, total civil penalties for any Department contractor, subcontractor, or supplier may not exceed total fees paid within any one-year period.

Further details on the Price-Anderson amendments are provided below under the heading Third Party Liability.

Subtitle B – General Nuclear Matters:

- provides for Commission scholarship and fellowship programmes for students to pursue education in science, engineering, or other fields of study that the Commission determines is critical to its regulatory mission;
- permits the Commission to issue authorising licences for export of Highly Enriched Uranium (HEU) for medical isotope production; outlines requirements for granting a licence to a “recipient country” (Canada, Belgium, France, Germany, and the Netherlands) – including written assurance that the HEU will be used only for medical isotope production and that physical protection requirements are in place for transportation and storage; requires that the National Academy of Sciences conduct a feasibility study on medical isotope production to review, *inter alia*, the Department’s progress in eliminating use of HEU in reactor fuel, reactor targets, and medical isotope production facilities; and identifies the potential cost differential in medical isotope production based on the processing facility used (HEU vs. LEU);
- provides that the Secretary will establish two projects in regionally and climatically diverse regions to demonstrate commercial production of hydrogen at existing nuclear power plants;
- authorises the Secretary to enter into contracts for new plant investment protection in the form of standby support to offset the financial impact of delays beyond industry’s control that may occur during construction and during the initial phases of plant startup for the first six new reactors. The act provides for 100% coverage of the cost of delays for the first two new plants, up to USD 500 million each, and 50% of the cost of delays, up to USD 250 million each, for plants three through six. Covered delays include failure of the Commission to comply with schedules for review and approval of inspections or conduct of hearings; the Secretary is *not* obligated to cover any cost resulting from failure of the company to take any action required by law or regulation, or any events within the company’s control, or normal business risks.

Subtitle C – Next Generation Nuclear Plant Project:

The law authorises USD 1.25 billion for fiscal years 2006 to 2015 to fund a prototype Next Generation Nuclear Plant Project to produce both electricity and hydrogen and to be sited at the Idaho National Laboratory; the Secretary must seek international cooperation, participation and financial contributions and may contract for assistance from specialists or facilities from member countries of the Generation IV International Forum, the Russian Federation or other international partners if they provide access to cost-effective and relevant skills or test capabilities.

Subtitle D – Nuclear Security:

- includes a requirement that the NRC issue a rulemaking on its “design basis threat”, the range of threats against which nuclear plant security must defend;
- provides for periodic “force-on-force” drills by the NRC to help refine the ability to protect the plant from intruders, for nuclear power plants and fuel cycle facilities that handle highly enriched uranium;
- contains a requirement that the NRC assign an employee as a federal security coordinator in each region.

It also provides that the NRC will issue regulations prohibiting exporting or importing of a “radiation source”, as defined in the Code of Conduct on the Safety and Security of Radioactive Sources approved by the IAEA on 8 September 2003, unless the Commission determines, consistent with the Code of Conduct, that certain conditions are met by the recipient and recipient country. The Commission will also issue regulations establishing a mandatory tracking system for radiation sources in the United States, compatible to the maximum practicable, with the system established by the Secretary of Transportation. A violation will be punishable by a civil penalty of up to USD 1 million.

Third party liability

*Amendments to the Price-Anderson Act (2005)**

As mentioned above, the Energy Policy Act of 2005 introduced amendments to the 1957 Price-Anderson Act which is an integral part of the Atomic Energy Act (AEA) (see previous editions of the *Nuclear Law Bulletin*; the text of the Price-Anderson Act as amended in 1988 is reproduced in the Supplement to NLB No. 42).

Subtitle A of the 2005 Energy Policy Act amends Sec. 170 of the AEA as follows:

- **Extension of Indemnification Authority:** Extends the indemnification authority under the AEA of: Commission licensees; Department contractors; and Nonprofit Educational Institutions to 31 December 2025. [Sec. 170c.; 170d.(1)(A); and 170k.];
- **Maximum Assessment:** Increases from USD 63 million to USD 95.8 million the maximum standard deferred premium that may be charged a licensee following any nuclear incident and increases from USD 10 million to USD 15 million the maximum amount payable by a licensee in any one year – as a retrospective premium following a nuclear incident – for each facility for which the licensee is required to maintain primary

* This information note was also kindly provided by Ms. Sophia Angelini.

financial protection. (Primary financial protection currently remains USD 300 million for facilities designed for producing substantial amounts of electricity and having a rated capacity of 100 000 electrical kilowatts or more.) [Sec. 170b.(1)];

- **Department Liability Limit:** Above any financial protection that the Secretary may require of a contractor to cover public liability, the Department's liability is limited to a total of USD 10 billion (subject to adjustment for inflation under subsection 170t.) for all persons indemnified in connection with the contract and for each nuclear incident, including legal costs of the contractor [Sec. 170d.(2)];
- **Contract Amendments:** All indemnification agreements are deemed amended as of enactment (8 August 2005) to reflect the Department's new USD 10 billion indemnity limit for public liability - above any financial protection required of the contractor [Sec. 170d.(3)];
- **Liability Limit:** The aggregate public liability for a single nuclear incident, including legal costs, shall not exceed in the case of contractors the USD 10 billion indemnity amount - above any required financial protection [Sec. 170e.(1)(B)];
- **Incidents Outside the United States:** Increases the maximum indemnity provided by the Secretary in case of a "nuclear incident" occurring outside the United States (involving US-owned source, special nuclear, or by-product material used by or under contract with the United States) from USD 100 million to USD 500 million [Sec. 170d.(5)];
- **Reports:** The Commission and Secretary must submit detailed reports to Congress by 21 December 2021 concerning continuation or modification of the act, taking into account the condition of the nuclear industry, availability of private insurance, and state of knowledge concerning nuclear safety at that time [Sec.170p.];
- **Inflation Adjustment:** The Commission must adjust the *total and annual* standard deferred premium under Sec. 170b.(1) not less than once during each 5-year period following 20 August 2003 in accordance with the aggregate percentage change in the Consumer Price Index [Sec. 170t.];
- **Treatment of Modular Reactors:** A new subsection provides that the Commission must consider as "a single facility having a rated capacity of 100 000 electrical kilowatts or more" any combination of two or more facilities located at a single site - each of which has a rated capacity of between 100 000 and 300 000 electrical kilowatts but not more than a combined rated capacity of 1 300 000 electrical kilowatts [Sec. 170b.(5)(A) and (B)];
- **Applicability:** Amendments as to the "Maximum Assessment" of USD 95.8 million (maximum standard premium that may be charged a licensee following any nuclear incident); the "Department Liability Limit" of USD 10 billion for a single nuclear incident, including legal costs; and the USD 500 million maximum indemnity by the Secretary in the case of "Nuclear Incidents Outside the United States" do not apply to an incident occurring before 8 August 2005;
- **Civil Penalties:** Repeals a requirement that the Secretary determine by rule whether nonprofit educational institutions receive automatic remission of penalties. For contracts entered into as of 8 August 2005, total civil penalties for any not-for-profit contractor, subcontractor, or supplier, may not exceed total fees paid within any one-year period [Sec. 234A b.(2)].

INTERNATIONAL REGULATORY ACTIVITIES

International Atomic Energy Agency

*Resolutions adopted by the IAEA General Conference (2005)**

The 49th Session of the IAEA General Conference was held in Vienna from 26 to 30 September 2005 with the participation of delegates from 126 Member States and representatives of various international organisations.

A number of resolutions¹ were adopted by the Conference. This paper refers in particular to two resolutions [GC(49)RES/9 and GC(49)RES/10] relating to, first, nuclear, radiation and transport safety and waste management, and secondly, nuclear security.

Measures to Strengthen International Co-operation in Nuclear, Radiation and Transport Safety and Waste Management [GC(49)RES/9]

Nuclear Installation Safety

The General Conference recalled the objective of the Convention on Nuclear Safety to achieve and maintain a high level of nuclear safety worldwide. It noted with satisfaction the report of the Third Review Meeting of the Contracting Parties to the Convention on Nuclear Safety (which was held from 11 to 22 April 2005), particularly the conclusion that significant progress had been made in the improvement of Contracting Parties' overall safety regimes. The Conference called on the Contracting Parties to take steps to further improve the implementation of their obligations and to further enhance nuclear safety, particularly in those areas identified as warranting further attention.

In addition, the Conference also noted with satisfaction that, with India's ratification of the convention in March 2005, all states currently operating nuclear power plants are now parties to the convention. It appealed to all Member States, particularly those constructing or planning nuclear power reactors, which have not yet done so to take the steps necessary to become party to the convention.

The Conference welcomed the resolution of the Third Review Meeting of Contracting Parties to the Convention on Nuclear Safety concerning the need to conduct international meetings on the application of the Code of Conduct on the Safety of Research Reactors. In addition, the Conference

* This note was kindly provided by the Office of Legal Affairs of the International Atomic Energy Agency.

1. The texts of these resolutions are available on the IAEA Web site at the following address: www.iaea.org/About/Policy/GC/GC49/Resolutions/index.html.

looked forward to further progress towards implementation of the Code of Conduct and further development of the International Plan for Enhancing Research Reactor Safety.

The Safety of Radioactive Waste Management

The General Conference reminded Member States of the relevance of the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management. The Conference also welcomed Euratom's decision to accede to the Joint Convention.

The General Conference appealed to all Member States which have not yet taken the steps necessary to become Contracting Parties to the Joint Convention to do so. The Conference also encouraged active participation by Contracting Parties in the second Review Meeting of Contracting Parties, to be held in Vienna in May 2006.

International Nuclear and Radiological Emergency Preparedness and Response

The General Conference noted with concern the nuclear and radiological incidents and emergencies that have occurred in different parts of the world in recent years. The Conference also recognised that such incidents and emergencies, and possible acts with malicious intent, may lead to significant radiological consequences over wide geographical areas, thereby requiring an international response.

The Conference urged all Member States to become Contracting Parties to the Convention on Early Notification of a Nuclear Accident (the Early Notification Convention) and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency (the Assistance Convention). The Conference also continued to encourage Member States to improve, where necessary, their own preparedness and response capabilities for nuclear and radiological incidents and emergencies, including their arrangements for responding to acts involving the malicious use of nuclear or radioactive material and to threats of such acts, and to adopt the relevant Agency standards, procedures and practical tools.

Safety and Security of Radioactive Sources

The General Conference recalled the findings of the International Conference on the Safety and Security of Radioactive Sources: Towards a Global System for the Continuous Control of Sources throughout their Life Cycle held in Bordeaux in June-July 2005 (the Bordeaux Conference). The Conference noted the statement of the 2005 Gleneagles G-8 Summit, which encouraged all states to adopt the Code of Conduct on the Safety and Security of Radioactive Sources [IAEA/CODEOC/2004] and welcomed Agency's endorsement of the Code's supplementary Guidance on the Import and Export of Radioactive Sources [IAEA/CODEOC/IMP-EXP/2005]. In addition, the Conference also noted the entry into force in December 2005 of European Union legislation on the regulatory control of high-activity sealed radiation sources and orphan sources as an initial step for the implementation of the Code of Conduct.

While recognising that the Code of Conduct is not a legally binding instrument, the Conference welcomed the high level of global support for the Code, noting that, as at 8 September 2005, 76 states had made a political commitment to it in line with the Conference's resolutions GC(47)/RES/7.B and GC(48)/RES/10.D, and urged other states to make such a commitment.

The Conference also underlined the important role of the supplementary guidance for the establishment of continuous, global control of radioactive sources, noting that, as at 15 September 2005, only nine states had notified the Director General, pursuant to Conference's resolution GC(48)/RES/10, of their intention to act in accordance with the guidance. The Conference reiterated the need for states to implement the supplementary guidance to the code in a co-operative, harmonised and consistent fashion.

The Conference recognised the value of information exchange on national approaches to controlling radioactive sources, and requested the IAEA Secretariat to undertake consultations with Member States with a view to establishing a formalised process for a periodic exchange of information and lessons learned and for the evaluation of progress made by states towards implementing the provisions of the Code of Conduct. The Conference encouraged the Secretariat to take account of the code, and of feedback from states on how they are implementing the code, in the planned review of the International Basic Safety Standards (BSS).

Civil Liability for Nuclear Damage

The General Conference welcomed the valuable work that the International Expert Group on Nuclear Liability (INLEX) has done over the past year to clarify the application and scope of the Agency's nuclear liability regime, including the identification of any possible gaps. The Conference also looked forward to the continuation of INLEX's work, in particular its outreach workshops in Australia in November 2005 and in Peru during early 2006.

Transport Safety

In the context of transport safety, the General Conference stressed the importance of having effective liability mechanisms in place to insure against harm to human health and the environment as well as actual economic loss due to an accident or incident during the maritime transport of radioactive materials. The Conference again welcomed the continuing valuable work of INLEX, including the development of an explanatory text on the various nuclear liability instruments and the examination of the application and scope of the Agency's nuclear liability regime, including any serious gaps therein.

Nuclear Security – Measures to Protect Against Nuclear Terrorism [GC(49)RES/10]

In the first part of the Resolution on Nuclear Security, the General Conference reaffirmed the importance of the Convention on the Physical Protection of Nuclear Material, as the only multilateral legally binding instrument dealing with the physical protection of nuclear material.

The Conference also recalled that other international agreements negotiated under the auspices of the Agency are also relevant to nuclear security and the physical protection of nuclear material and other radioactive materials against the threat of nuclear and radiological terrorism, including the Early Notification and Assistance Conventions, the Convention on Nuclear Safety and the Joint Convention.

The Conference also reaffirmed the importance of the Code of Conduct on the Safety and Security of Radioactive Sources as a valuable instrument for enhancement of safety and security of radioactive sources while recognising that the code is not a legally binding instrument. The Conference also noted the central contribution of Agency safeguards agreements and additional

protocols, and also of states' systems of accounting for and control of nuclear materials, to preventing illicit trafficking and to deterring and detecting diversion of nuclear materials.

Amendment to the Convention on the Physical Protection of Nuclear Material

The General Conference welcomed the adoption of the important amendment which substantially strengthens the convention, extending its scope to cover the physical protection of nuclear facilities and the domestic transport, storage and use of nuclear material, thereby strengthening global nuclear security. The Conference encouraged all states party to the Convention to ratify the amendment as soon as possible and to deposit instruments of ratification, acceptance or approval with the depositary to enable the early entry into force of the amendment. It also encouraged all states party to the convention to act in accordance with the object and purpose of the amendment until such time as the amendment enters into force. The Conference also appealed to all states that have not yet done so to adhere to the convention and to the amendment as soon as possible.

European Union

Regulations on nuclear trade (including non-proliferation)

Commission Regulation on the Application of Euratom Safeguards (2005)

The new Commission Regulation (Euratom) No. 302/2005 was adopted on 8 February 2005 and entered into force on 20 March 2005. It replaces Commission Regulation No. 3227/76/Euratom of 19 October 1976 (see *Nuclear Law Bulletin* No. 73) pursuant to the Council Decision of 29 April 2004. It aims to review the obligations of operators in relation to safeguards in order to take account of developments to the legal framework and technological advancements.

The guidelines for the implementation of this regulation will be adopted by the Commission in the form of a recommendation, in accordance with Article 37 of the regulation.

AGREEMENTS

MULTILATERAL AGREEMENTS

The 2005 Review Conference on the Non-Proliferation Treaty (NPT)

The 7th Review Conference of the Parties to the Treaty on the Non-proliferation of Nuclear Weapons (NPT) was held at United Nations Headquarters in New York from 2 to 27 May 2005. It was presided by Ambassador Sergio Queiroz-Duarte of Brazil and brought together representatives from 188 states.

The NPT was adopted in 1968 to prevent the spread of nuclear weapons technology, foster the peaceful uses of nuclear energy, and further the goal of general and complete disarmament (see *Nuclear Law Bulletin* Nos. 5, 36 and 56).

Review Conferences are held every five years, in accordance with Article VIII(3) of the treaty, in order to review the operation of the NPT and assure compliance by all States Parties.* This year's Conference was expected to produce landmark decisions, as it was convening ten years after the decision to extend the treaty indefinitely, on the 60th anniversary of the atomic bombings of Hiroshima and Nagasaki and it was the first conference held after the recent spate of terrorist attacks beginning on 11 September 2001.

A number of subjects were on the table for discussion at this Review Conference, including the following principal issues:

- the CTBT and how to reconcile the overwhelming support for the treaty with the rejection of it by the USA;
- concerns over North Korea's announced withdrawal and the more general question of withdrawal from the NPT;
- concerns over Iran's nuclear programme and North Korea's nuclear weapons programme;
- the lack of effective nuclear disarmament to date;
- the institutional deficit of the NPT – the treaty has been criticized for its lack of secretariat, reporting mechanisms, and lack of means to deal with urgent matters;
- universality and the difficulty in convincing states such as India, Pakistan and Israel to join the regime;
- implementation of the decision and agreements of 1995 and 2000;

* See articles by Laura Rockwood on previous Review Conferences in NLB Nos. 46 and 56; see also the article by Cyril Pinel on the 2000 Review Conference in NLB No. 65 and the article by Gilles Arbellot du Repaire on the Consequences of 11 September 2001 on the Treaty Review Process in NLB No. 71.

- the need to strengthen safeguards to prevent terrorists from obtaining weapons of mass destruction.

Substantive discussions took place in each one of the three committees (Main Committee I dealing with issues of nuclear disarmament and security assurances; Main Committee II dealing with safeguards and regional issues; and Main Committee III considering the implementation of the treaty's provisions related to the peaceful uses of nuclear energy), which were supposed to submit to the Plenary a final consensus report on matters discussed. A substantial part of the Conference was, nonetheless, dedicated to resolving procedural matters which had not been decided upon before the conference itself. The main problem in relation to the establishment of the agenda was how to refer to the agreements of the 1995 and 2000 Review Conferences. It appears that such a heightened interest in procedural issues seriously undermined the entire Conference.

Unfortunately, none of the three Main Committees was able to produce a consensus document on substantive issues and the reports were largely of a technical nature. The Conference was, therefore, unable to produce a consensual final document.

Multilateral Nuclear Environmental Programme in the Russian Federation

The Framework Agreement on a Multilateral Nuclear Environmental Programme in the Russian Federation (MNEPR) and the Protocol on Claims, Legal Proceedings and Indemnification to the Framework Agreement on a Multilateral Nuclear Environmental Programme in the Russian Federation were signed in Stockholm on 21 May 2003 and entered into force on 14 April 2004 (see *Nuclear Law Bulletin* Nos. 71 and 73).

There are currently ten Contracting Parties to the MNEPR Framework Agreement and Protocol, as set out in the table below.

Status of the MNEPR Framework Agreement and Protocol

State	Signature	Instrument	Date of deposit	Entry into force
Belgium	21 May 2003	Ratification	5 August 2005	4 September 2005
Denmark	21 May 2003	Approval	16 December 2003	14 April 2004
Finland	21 May 2003	Acceptance	10 December 2004	9 January 2005
France	21 May 2003	Approval	23 November 2004	23 December 2004
Germany	21 May 2003	Ratification	15 April 2005	15 May 2005
Netherlands	21 May 2003	Acceptance	2 February 2005	4 March 2005
Norway	21 May 2003	Approval	16 October 2003	14 April 2004
Russian Federation	21 May 2003	Ratification	15 March 2004	14 April 2004
Sweden	21 May 2003	Ratification	11 July 2003	14 April 2004

State	Signature	Instrument	Date of deposit	Entry into force
United Kingdom	21 May 2003			
United States*	21 May 2003			
European Atomic Energy Community	21 May 2003			
European Community	21 May 2003			
EBRD		Accession	4 March 2004	14 April 2004

Status of Conventions in the Field of Nuclear Energy

1963 Vienna Convention on Civil Liability for Nuclear Damage

Since the last update in *Nuclear Law Bulletin* No. 71, the Russian Federation has become a Contracting Party to this convention (ratification). Therefore, as of 4 November 2005, there are 33 Contracting Parties to this convention.

1979 Convention on the Physical Protection of Nuclear Material

Since the last update in *Nuclear Law Bulletin* No. 75, four states have become Contracting Parties to this convention (accession), namely Bangladesh, Jamaica, Kazakhstan and Nauru. Therefore, as of 4 November 2005, there are 115 Contracting Parties to this convention.

1986 Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency

Since the last update in *Nuclear Law Bulletin* No. 74, three states have become Contracting Parties to this convention (accession), namely Colombia, El Salvador and the United Republic of Tanzania. Therefore, as of 4 November 2005, there are 93 Contracting Parties to this convention.

1996 Comprehensive Nuclear-Test-Ban Treaty

Since the last update in *Nuclear Law Bulletin* No. 75, four states have become Contracting Parties to this treaty (ratification), namely the Cook Islands, Djibouti, Madagascar and Vanuatu. Therefore, as of 4 November 2005, there are 125 Contracting Parties to this treaty.

* The United States only signed the Framework Agreement on a Multilateral Nuclear Environmental Programme in the Russian Federation and not the Protocol.

1996 Protocol Amending the 1972 London Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter

Since the last update in *Nuclear Law Bulletin* No. 74, Saint Kitts and Nevis has become a Contracting Party to this protocol (accession). Therefore, as of 4 November 2005, there are 21 Contracting Parties to this protocol.

1997 Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management

Since the last update in *Nuclear Law Bulletin* No. 73, Euratom has become a Contracting Party to this convention (accession). Therefore, as of 4 November 2005, there are 35 Contracting Parties to this convention.

UNITED NATIONS

International Convention for the Suppression of Acts of Nuclear Terrorism

The States Parties to this Convention,

Having in mind the purposes and principles of the Charter of the United Nations concerning the maintenance of international peace and security and the promotion of good-neighbourliness and friendly relations and cooperation among States,

Recalling the Declaration on the Occasion of the Fiftieth Anniversary of the United Nations of 24 October 1995,

Recognizing the right of all States to develop and apply nuclear energy for peaceful purposes and their legitimate interests in the potential benefits to be derived from the peaceful application of nuclear energy,

Bearing in mind the Convention on the Physical Protection of Nuclear Material of 1980,

Deeply concerned about the worldwide escalation of acts of terrorism in all its forms and manifestations,

Recalling also the Declaration on Measures to Eliminate International Terrorism, annexed to General Assembly resolution 49/60 of 9 December 1994, in which, *inter alia*, the States Members of the United Nations solemnly reaffirm their unequivocal condemnation of all acts, methods and practices of terrorism as criminal and unjustifiable, wherever and by whomever committed, including those which jeopardize the friendly relations among States and peoples and threaten the territorial integrity and security of States,

Noting that the Declaration also encouraged States to review urgently the scope of the existing international legal provisions on the prevention, repression and elimination of terrorism in all its forms and manifestations, with the aim of ensuring that there is a comprehensive legal framework covering all aspects of the matter,

Recalling General Assembly resolution 51/210 of 17 December 1996 and the Declaration to Supplement the 1994 Declaration on Measures to Eliminate International Terrorism annexed thereto,

Recalling also that, pursuant to General Assembly resolution 51/210, an ad hoc committee was established to elaborate, *inter alia*, an international convention for the suppression of acts of nuclear terrorism to supplement related existing international instruments,

Noting that acts of nuclear terrorism may result in the gravest consequences and may pose a threat to international peace and security,

Noting also that existing multilateral legal provisions do not adequately address those attacks,

Being convinced of the urgent need to enhance international cooperation between States in devising and adopting effective and practical measures for the prevention of such acts of terrorism and for the prosecution and punishment of their perpetrators,

Noting that the activities of military forces of States are governed by rules of international law outside of the framework of this Convention and that the exclusion of certain actions from the coverage of this Convention does not condone or make lawful otherwise unlawful acts, or preclude prosecution under other laws,

Have agreed as follows:

Article 1

For the purposes of this Convention:

1. “Radioactive material” means nuclear material and other radioactive substances which contain nuclides which undergo spontaneous disintegration (a process accompanied by emission of one or more types of ionizing radiation, such as alpha-, beta-, neutron particles and gamma rays) and which may, owing to their radiological or fissile properties, cause death, serious bodily injury or substantial damage to property or to the environment.
2. “Nuclear material” means plutonium, except that with isotopic concentration exceeding 80 per cent in plutonium-238; uranium-233; uranium enriched in the isotopes 235 or 233; uranium containing the mixture of isotopes as occurring in nature other than in the form of ore or ore residue; or any material containing one or more of the foregoing;

Whereby “uranium enriched in the isotope 235 or 233” means uranium containing the isotope 235 or 233 or both in an amount such that the abundance ratio of the sum of these isotopes to the isotope 238 is greater than the ratio of the isotope 235 to the isotope 238 occurring in nature.

3. “Nuclear facility” means:
 - (a) Any nuclear reactor, including reactors installed on vessels, vehicles, aircraft or space objects for use as an energy source in order to propel such vessels, vehicles, aircraft or space objects or for any other purpose;
 - (b) Any plant or conveyance being used for the production, storage, processing or transport of radioactive material.
4. “Device” means:
 - (a) Any nuclear explosive device; or
 - (b) Any radioactive material dispersal or radiation-emitting device which may, owing to its radiological properties, cause death, serious bodily injury or substantial damage to property or the environment.
5. “State or government facility” includes any permanent or temporary facility or conveyance that is used or occupied by representatives of a State, members of Government, the legislature or the

judiciary or by officials or employees of a State or any other public authority or entity or by employees or officials of an intergovernmental organization in connection with their official duties.

6. "Military forces of a State" means the armed forces of a State which are organized, trained and equipped under its internal law for the primary purpose of national defence or security and persons acting in support of those armed forces who are under their formal command, control and responsibility.

Article 2

1. Any person commits an offence within the meaning of this Convention if that person unlawfully and intentionally:
 - (a) Possesses radioactive material or makes or possesses a device:
 - (i) With the intent to cause death or serious bodily injury; or
 - (ii) With the intent to cause substantial damage to property or the environment;
 - (b) Uses in any way radioactive material or a device, or uses or damages a nuclear facility in a manner which releases or risks the release of radioactive material:
 - (i) With the intent to cause death or serious bodily injury; or
 - (ii) With the intent to cause substantial damage to property or the environment; or
 - (iii) With the intent to compel a natural or legal person, an international organization or a State to do or refrain from doing an act.
2. Any person also commits an offence if that person:
 - (a) Threatens, under circumstances which indicate the credibility of the threat, to commit an offence as set forth in subparagraph 1 (b) of the present article; or
 - (b) Demands unlawfully and intentionally radioactive material, a device or a nuclear facility by threat, under circumstances which indicate the credibility of the threat, or by use of force.
3. Any person also commits an offence if that person attempts to commit an offence as set forth in paragraph 1 of the present article.
4. Any person also commits an offence if that person:
 - (a) Participates as an accomplice in an offence as set forth in paragraph 1, 2 or 3 of the present article; or
 - (b) Organizes or directs others to commit an offence as set forth in paragraph 1, 2 or 3 of the present article; or
 - (c) In any other way contributes to the commission of one or more offences as set forth in paragraph 1, 2 or 3 of the present article by a group of persons acting with a common

purpose; such contribution shall be intentional and either be made with the aim of furthering the general criminal activity or purpose of the group or be made in the knowledge of the intention of the group to commit the offence or offences concerned.

Article 3

This Convention shall not apply where the offence is committed within a single State, the alleged offender and the victims are nationals of that State, the alleged offender is found in the territory of that State and no other State has a basis under article 9, paragraph 1 or paragraph 2, to exercise jurisdiction, except that the provisions of articles 7, 12, 14, 15, 16 and 17 shall, as appropriate, apply in those cases.

Article 4

1. Nothing in this Convention shall affect other rights, obligations and responsibilities of States and individuals under international law, in particular the purposes and principles of the Charter of the United Nations and international humanitarian law.
2. The activities of armed forces during an armed conflict, as those terms are understood under international humanitarian law, which are governed by that law are not governed by this Convention, and the activities undertaken by military forces of a State in the exercise of their official duties, inasmuch as they are governed by other rules of international law, are not governed by this Convention.
3. The provisions of paragraph 2 of the present article shall not be interpreted as condoning or making lawful otherwise unlawful acts, or precluding prosecution under other laws.
4. This 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.

Article 5

Each State Party shall adopt such measures as may be necessary:

- (a) To establish as criminal offences under its national law the offences set forth in article 2;
- (b) To make those offences punishable by appropriate penalties which take into account the grave nature of these offences.

Article 6

Each State Party shall adopt such measures as may be necessary, including, where appropriate, domestic legislation, to ensure that criminal acts within the scope of this Convention, in particular where they are intended or calculated to provoke a state of terror in the general public or in a group of persons or particular persons, are under no circumstances justifiable by considerations of a political, philosophical, ideological, racial, ethnic, religious or other similar nature and are punished by penalties consistent with their grave nature.

Article 7

1. States Parties shall cooperate by:
 - (a) Taking all practicable measures, including, if necessary, adapting their national law, to prevent and counter preparations in their respective territories for the commission within or outside their territories of the offences set forth in article 2, including measures to prohibit in their territories illegal activities of persons, groups and organizations that encourage, instigate, organize, knowingly finance or knowingly provide technical assistance or information or engage in the perpetration of those offences;
 - (b) Exchanging accurate and verified information in accordance with their national law and in the manner of and subject to the conditions specified herein, and coordinating administrative and other measures taken as appropriate to detect, prevent, suppress and investigate the offences set forth in article 2 and also in order to institute criminal proceedings against persons alleged to have committed those crimes. In particular, a State Party shall take appropriate measures in order to inform without delay the other States referred to in article 9 in respect of the commission of the offences set forth in article 2 as well as preparations to commit such offences about which it has learned, and also to inform, where appropriate, international organizations.
2. States Parties shall take appropriate measures consistent with their national law to protect the confidentiality of any information which they receive in confidence by virtue of the provisions of this Convention from another State Party or through participation in an activity carried out for the implementation of this Convention. If States Parties provide information to international organizations in confidence, steps shall be taken to ensure that the confidentiality of such information is protected.
3. States Parties shall not be required by this Convention to provide any information which they are not permitted to communicate pursuant to national law or which would jeopardize the security of the State concerned or the physical protection of nuclear material.
4. States Parties shall inform the Secretary-General of the United Nations of their competent authorities and liaison points responsible for sending and receiving the information referred to in the present article. The Secretary-General of the United Nations shall communicate such information regarding competent authorities and liaison points to all States Parties and the International Atomic Energy Agency. Such authorities and liaison points must be accessible on a continuous basis.

Article 8

For purposes of preventing offences under this Convention, States Parties shall make every effort to adopt appropriate measures to ensure the protection of radioactive material, taking into account relevant recommendations and functions of the International Atomic Energy Agency.

Article 9

1. Each State Party shall take such measures as may be necessary to establish its jurisdiction over the offences set forth in article 2 when:
 - (a) The offence is committed in the territory of that State; or

- (b) The offence is committed on board a vessel flying the flag of that State or an aircraft which is registered under the laws of that State at the time the offence is committed; or
 - (c) The offence is committed by a national of that State.
2. A State Party may also establish its jurisdiction over any such offence when:
- (a) The offence is committed against a national of that State; or
 - (b) The offence is committed against a State or government facility of that State abroad, including an embassy or other diplomatic or consular premises of that State; or
 - (c) The offence is committed by a stateless person who has his or her habitual residence in the territory of that State; or
 - (d) The offence is committed in an attempt to compel that State to do or abstain from doing any act; or
 - (e) The offence is committed on board an aircraft which is operated by the Government of that State.
3. Upon ratifying, accepting, approving or acceding to this Convention, each State Party shall notify the Secretary-General of the United Nations of the jurisdiction it has established under its national law in accordance with paragraph 2 of the present article. Should any change take place, the State Party concerned shall immediately notify the Secretary-General.
4. Each State Party shall likewise take such measures as may be necessary to establish its jurisdiction over the offences set forth in article 2 in cases where the alleged offender is present in its territory and it does not extradite that person to any of the States Parties which have established their jurisdiction in accordance with paragraph 1 or 2 of the present article.
5. This Convention does not exclude the exercise of any criminal jurisdiction established by a State Party in accordance with its national law.

Article 10

1. Upon receiving information that an offence set forth in article 2 has been committed or is being committed in the territory of a State Party or that a person who has committed or who is alleged to have committed such an offence may be present in its territory, the State Party concerned shall take such measures as may be necessary under its national law to investigate the facts contained in the information.
2. Upon being satisfied that the circumstances so warrant, the State Party in whose territory the offender or alleged offender is present shall take the appropriate measures under its national law so as to ensure that person's presence for the purpose of prosecution or extradition.
3. Any person regarding whom the measures referred to in paragraph 2 of the present article are being taken shall be entitled to:
- (a) Communicate without delay with the nearest appropriate representative of the State of which that person is a national or which is otherwise entitled to protect that person's

rights or, if that person is a stateless person, the State in the territory of which that person habitually resides;

- (b) Be visited by a representative of that State;
 - (c) Be informed of that person's rights under subparagraphs (a) and (b).
4. The rights referred to in paragraph 3 of the present article shall be exercised in conformity with the laws and regulations of the State in the territory of which the offender or alleged offender is present, subject to the provision that the said laws and regulations must enable full effect to be given to the purposes for which the rights accorded under paragraph 3 are intended.
 5. The provisions of paragraphs 3 and 4 of the present article shall be without prejudice to the right of any State Party having a claim to jurisdiction in accordance with article 9, subparagraph 1 (c) or 2 (c), to invite the International Committee of the Red Cross to communicate with and visit the alleged offender.
 6. When a State Party, pursuant to the present article, has taken a person into custody, it shall immediately notify, directly or through the Secretary-General of the United Nations, the States Parties which have established jurisdiction in accordance with article 9, paragraphs 1 and 2 and, if it considers it advisable, any other interested States Parties, of the fact that that person is in custody and of the circumstances which warrant that person's detention. The State which makes the investigation contemplated in paragraph 1 of the present article shall promptly inform the said States Parties of its findings and shall indicate whether it intends to exercise jurisdiction.

Article 11

1. The State Party in the territory of which the alleged offender is present shall, in cases to which article 9 applies, if it does not extradite that person, be obliged, without exception whatsoever and whether or not the offence was committed in its territory, to submit the case without undue delay to its competent authorities for the purpose of prosecution, through proceedings in accordance with the laws of that State. Those authorities shall take their decision in the same manner as in the case of any other offence of a grave nature under the law of that State.
2. Whenever a State Party is permitted under its national law to extradite or otherwise surrender one of its nationals only upon the condition that the person will be returned to that State to serve the sentence imposed as a result of the trial or proceeding for which the extradition or surrender of the person was sought, and this State and the State seeking the extradition of the person agree with this option and other terms they may deem appropriate, such a conditional extradition or surrender shall be sufficient to discharge the obligation set forth in paragraph 1 of the present article.

Article 12

Any person who is taken into custody or regarding whom any other measures are taken or proceedings are carried out pursuant to this Convention 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.

Article 13

1. The offences set forth in article 2 shall be deemed to be included as extraditable offences in any extradition treaty existing between any of the States Parties before the entry into force of this Convention. States Parties undertake to include such offences as extraditable offences in every extradition treaty to be subsequently concluded between them.
2. When a State Party which makes extradition conditional on the existence of a treaty receives a request for extradition from another State Party with which it has no extradition treaty, the requested State Party may, at its option, consider this Convention as a legal basis for extradition in respect of the offences set forth in article 2. Extradition shall be subject to the other conditions provided by the law of the requested State.
3. States Parties which do not make extradition conditional on the existence of a treaty shall recognize the offences set forth in article 2 as extraditable offences between themselves, subject to the conditions provided by the law of the requested State.
4. If necessary, the offences set forth in article 2 shall be treated, for the purposes of extradition between States Parties, as if they had been committed not only in the place in which they occurred but also in the territory of the States that have established jurisdiction in accordance with article 9, paragraphs 1 and 2.
5. The provisions of all extradition treaties and arrangements between States Parties with regard to offences set forth in article 2 shall be deemed to be modified as between States Parties to the extent that they are incompatible with this Convention.

Article 14

1. States Parties shall afford one another the greatest measure of assistance in connection with investigations or criminal or extradition proceedings brought in respect of the offences set forth in article 2, including assistance in obtaining evidence at their disposal necessary for the proceedings.
2. States Parties shall carry out their obligations under paragraph 1 of the present article in conformity with any treaties or other arrangements on mutual legal assistance that may exist between them. In the absence of such treaties or arrangements, States Parties shall afford one another assistance in accordance with their national law.

Article 15

None of the offences set forth in article 2 shall be regarded, for the purposes of extradition or mutual legal assistance, as a political offence or as an offence connected with a political offence or as an offence inspired by political motives. Accordingly, a request for extradition or for mutual legal assistance based on such an offence may not be refused on the sole ground that it concerns a political offence or an offence connected with a political offence or an offence inspired by political motives.

Article 16

Nothing in this Convention shall be interpreted as imposing an obligation to extradite or to afford mutual legal assistance if the requested State Party has substantial grounds for believing that the request for extradition for offences set forth in article 2 or for mutual legal assistance with respect to

such offences has been made for the purpose of prosecuting or punishing a person on account of that person's race, religion, nationality, ethnic origin or political opinion or that compliance with the request would cause prejudice to that person's position for any of these reasons.

Article 17

1. A person who is being detained or is serving a sentence in the territory of one State Party whose presence in another State Party is requested for purposes of testimony, identification or otherwise providing assistance in obtaining evidence for the investigation or prosecution of offences under this Convention may be transferred if the following conditions are met:
 - (a) The person freely gives his or her informed consent; and
 - (b) The competent authorities of both States agree, subject to such conditions as those States may deem appropriate.
2. For the purposes of the present article:
 - (a) The State to which the person is transferred shall have the authority and obligation to keep the person transferred in custody, unless otherwise requested or authorized by the State from which the person was transferred;
 - (b) The State to which the person is transferred shall without delay implement its obligation to return the person to the custody of the State from which the person was transferred as agreed beforehand, or as otherwise agreed, by the competent authorities of both States;
 - (c) The State to which the person is transferred shall not require the State from which the person was transferred to initiate extradition proceedings for the return of the person;
 - (d) The person transferred shall receive credit for service of the sentence being served in the State from which he was transferred for time spent in the custody of the State to which he was transferred.
3. Unless the State Party from which a person is to be transferred in accordance with the present article so agrees, that person, whatever his or her nationality, shall not be prosecuted or detained or subjected to any other restriction of his or her personal liberty in the territory of the State to which that person is transferred in respect of acts or convictions anterior to his or her departure from the territory of the State from which such person was transferred.

Article 18

1. Upon seizing or otherwise taking control of radioactive material, devices or nuclear facilities, following the commission of an offence set forth in article 2, the State Party in possession of it shall:
 - (a) Take steps to render harmless the radioactive material, device or nuclear facility;
 - (b) Ensure that any nuclear material is held in accordance with applicable International Atomic Energy Agency safeguards; and

- (c) Have regard to physical protection recommendations and health and safety standards published by the International Atomic Energy Agency.
2. Upon the completion of any proceedings connected with an offence set forth in article 2, or sooner if required by international law, any radioactive material, device or nuclear facility shall be returned, after consultations (in particular, regarding modalities of return and storage) with the States Parties concerned to the State Party to which it belongs, to the State Party of which the natural or legal person owning such radioactive material, device or facility is a national or resident, or to the State Party from whose territory it was stolen or otherwise unlawfully obtained.
 - 3(1). Where a State Party is prohibited by national or international law from returning or accepting such radioactive material, device or nuclear facility or where the States Parties concerned so agree, subject to paragraph 3(2) of the present article, the State Party in possession of the radioactive material, devices or nuclear facilities shall continue to take the steps described in paragraph 1 of the present article; such radioactive material, devices or nuclear facilities shall be used only for peaceful purposes.
 - 3(2). Where it is not lawful for the State Party in possession of the radioactive material, devices or nuclear facilities to possess them, that State shall ensure that they are as soon as possible placed in the possession of a State for which such possession is lawful and which, where appropriate, has provided assurances consistent with the requirements of paragraph 1 of the present article in consultation with that State, for the purpose of rendering it harmless; such radioactive material, devices or nuclear facilities shall be used only for peaceful purposes.
 4. If the radioactive material, devices or nuclear facilities referred to in paragraphs 1 and 2 of the present article do not belong to any of the States Parties or to a national or resident of a State Party or was not stolen or otherwise unlawfully obtained from the territory of a State Party, or if no State is willing to receive such item pursuant to paragraph 3 of the present article, a separate decision concerning its disposition shall, subject to paragraph 3(2) of the present article, be taken after consultations between the States concerned and any relevant international organizations.
 5. For the purposes of paragraphs 1, 2, 3 and 4 of the present article, the State Party in possession of the radioactive material, device or nuclear facility may request the assistance and cooperation of other States Parties, in particular the States Parties concerned, and any relevant international organizations, in particular the International Atomic Energy Agency. States Parties and the relevant international organizations are encouraged to provide assistance pursuant to this paragraph to the maximum extent possible.
 6. The States Parties involved in the disposition or retention of the radioactive material, device or nuclear facility pursuant to the present article shall inform the Director General of the International Atomic Energy Agency of the manner in which such an item was disposed of or retained. The Director General of the International Atomic Energy Agency shall transmit the information to the other States Parties.
 7. In the event of any dissemination in connection with an offence set forth in article 2, nothing in the present article shall affect in any way the rules of international law governing liability for nuclear damage, or other rules of international law.

Article 19

The State Party where the alleged offender is prosecuted shall, in accordance with its national law or applicable procedures, communicate the final outcome of the proceedings to the Secretary-General of the United Nations, who shall transmit the information to the other States Parties.

Article 20

States Parties shall conduct consultations with one another directly or through the Secretary-General of the United Nations, with the assistance of international organizations as necessary, to ensure effective implementation of this Convention.

Article 21

The States Parties shall carry out their obligations under this Convention in a manner consistent with the principles of sovereign equality and territorial integrity of States and that of non-intervention in the domestic affairs of other States.

Article 22

Nothing in this Convention entitles a State Party to undertake in the territory of another State Party the exercise of jurisdiction and performance of functions which are exclusively reserved for the authorities of that other State Party by its national law.

Article 23

1. Any dispute between two or more States Parties concerning the interpretation or application of this Convention which cannot be settled through negotiation within a reasonable time shall, at the request of one of them, be submitted to arbitration. If, within six months from the date of the request for arbitration, the parties are unable to agree on the organization of the arbitration, any one of those parties may refer the dispute to the International Court of Justice, by application, in conformity with the Statute of the Court.
2. Each State may, at the time of signature, ratification, acceptance or approval of this Convention or accession thereto, declare that it does not consider itself bound by paragraph 1 of the present article. The other States Parties shall not be bound by paragraph 1 with respect to any State Party which has made such a reservation.
3. Any State which has made a reservation in accordance with paragraph 2 of the present article may at any time withdraw that reservation by notification to the Secretary-General of the United Nations.

Article 24

1. This Convention shall be open for signature by all States from 14 September 2005 until 31 December 2006 at United Nations Headquarters in New York.
2. This Convention is subject to ratification, acceptance or approval. The instruments of ratification, acceptance or approval shall be deposited with the Secretary-General of the United Nations.

3. This Convention shall be open to accession by any State. The instruments of accession shall be deposited with the Secretary-General of the United Nations.

Article 25

1. This Convention shall enter into force on the thirtieth day following the date of the deposit of the twenty-second instrument of ratification, acceptance, approval or accession with the Secretary-General of the United Nations.
2. For each State ratifying, accepting, approving or acceding to the Convention after the deposit of the twenty-second instrument of ratification, acceptance, approval or accession, the Convention shall enter into force on the thirtieth day after deposit by such State of its instrument of ratification, acceptance, approval or accession.

Article 26

1. A State Party may propose an amendment to this Convention. The proposed amendment shall be submitted to the Depository, who circulates it immediately to all States Parties.
2. If the majority of the States Parties request the Depository to convene a Conference to consider the proposed amendments, the Depository shall invite all States Parties to attend such a Conference to begin not sooner than three months after the invitations are issued.
3. The Conference shall make every effort to ensure amendments are adopted by consensus. Should this not be possible, amendments shall be adopted by a two-thirds majority of all States Parties. Any amendment adopted at the Conference shall be promptly circulated by the Depository to all States Parties.
4. The amendment adopted pursuant to paragraph 3 of the present article shall enter into force for each State Party that deposits its instrument of ratification, acceptance, accession or approval of the amendment on the thirtieth day after the date on which two thirds of the States Parties have deposited their relevant instrument. Thereafter, the amendment shall enter into force for any State Party on the thirtieth day after the date on which that State deposits its relevant instrument.

Article 27

1. Any State Party may denounce this Convention by written notification to the Secretary-General of the United Nations.
2. Denunciation shall take effect one year following the date on which notification is received by the Secretary-General of the United Nations.

Article 28

The original of this Convention, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Secretary-General of the United Nations, who shall send certified copies thereof to all States.

In witness whereof, the undersigned, being duly authorized thereto by their respective Governments, have signed this Convention, opened for signature at United Nations Headquarters in New York on 14 September 2005.

BIBLIOGRAPHY & NEWS BRIEFS

BIBLIOGRAPHY

Italy

The Legal Regime of Nuclear Energy – A Comprehensive Guide to International and European Union Law by Fabrizio Nocera, Belgium, December 2005

This book, written by Fabrizio Nocera and published by Intersentia, offers a comprehensive presentation of current international and European Union legislation in the field of nuclear energy. It also addresses instruments and acts related to nuclear energy (e.g. environmental protection, waste disposal, etc). Each instrument and act is accompanied by relevant background information as to origin, contents and developments. The vast range of subjects is divided into two parts: one addressing the legal regime governing the safe use of nuclear energy; the other dealing with the legal regime intended to ensure the peaceful use of nuclear energy. In the appendix, the reader can find selected case law of the Court of Justice of the European Communities dealing with nuclear energy issues.

OECD Nuclear Energy Agency

An updated version of the *Nuclear Law Bulletin* Index is available in English and French on the NEA Web site (www.nea.fr/html/law/nlb/INDEX_EN_1_75.pdf). It covers the 75 issues of the *Nuclear Law Bulletin* and Supplements published to date.

International Nuclear Law Association

Die Internationalisierung des Atomrechts – Internationalizing Atomic Energy Law, Nomos Verlagsgesellschaft, Baden Baden, 2005, 325 pages

This publication contains the proceedings from the 10th Regional Meeting of the German Branch of the International Nuclear Law Association, which took place on 2 and 3 September 2004 in Celle, Germany. The theme of this meeting was “Internationalising Atomic Energy Law”. The four working sessions addressed respectively legal problems in relation to the management of nuclear waste; regional nuclear safety vs. global nuclear safety and the question of whether the Europeans need a complementary EU nuclear safety regime; nuclear liability and insurance; and current problems facing German atomic energy law. 120 participants from 23 countries and 3 international organisations participated in the discussions under the chairmanship of Dr. Norbert Pelzer. The proceedings contain the full texts of the papers presented and summaries of the discussions.

NEWS BRIEFS

World Nuclear University

The World Nuclear University (WNU) was established in September 2003 under the auspices of the World Nuclear Association, whose headquarters are based in London. It also benefits from the sponsorship of the OECD/NEA, the IAEA and the World Association of Nuclear Operators (WANO). The first WNU Summer Institute was held from 9 July to 20 August 2005 at the Department of Energy's Idaho National Laboratory in the USA. The course attracted 77 participants from 34 countries who followed this six-week training programme covering a broad spectrum of nuclear energy issues.

The 2006 WNU Summer Institute will be hosted by the Swedish Centre for Nuclear Technology (SKC), Sweden's Royal Institute of Technology (KTH) and France's *Commissariat à l'énergie atomique* (CEA). Further information on the programme and applications are available at the WNU Web site www.world-nuclear-university.org.

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NUCLEAR ENERGY AGENCY
ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

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The OECD is a unique forum where the governments of 30 democracies work together to address the economic, social and environmental challenges of globalisation. The OECD is also at the forefront of efforts to understand and to help governments respond to new developments and concerns, such as corporate governance, the information economy and the challenges of an ageing population. The Organisation provides a setting where governments can compare policy experiences, seek answers to common problems, identify good practice and work to co-ordinate domestic and international policies.

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NUCLEAR ENERGY AGENCY

The OECD Nuclear Energy Agency (NEA) was established on 1st February 1958 under the name of the OEEC European Nuclear Energy Agency. It received its present designation on 20th April 1972, when Japan became its first non-European full member. NEA membership today consists of 28 OECD member countries: Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Luxembourg, Mexico, the Netherlands, Norway, Portugal, Republic of Korea, the Slovak Republic, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. The Commission of the European Communities also takes part in the work of the Agency.

The mission of the NEA is:

- to assist its member countries in maintaining and further developing, through international co-operation, the scientific, technological and legal bases required for a safe, environmentally friendly and economical use of nuclear energy for peaceful purposes, as well as
- to provide authoritative assessments and to forge common understandings on key issues, as input to government decisions on nuclear energy policy and to broader OECD policy analyses in areas such as energy and sustainable development.

Specific areas of competence of the NEA include safety and regulation of nuclear activities, radioactive waste management, radiological protection, nuclear science, economic and technical analyses of the nuclear fuel cycle, nuclear law and liability, and public information. The NEA Data Bank provides nuclear data and computer program services for participating countries.

In these and related tasks, the NEA works in close collaboration with the International Atomic Energy Agency in Vienna, with which it has a Co-operation Agreement, as well as with other international organisations in the nuclear field.

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ESTONIA

Radiation Act* ¹

Adopted on 24 March 2004

(RT² I 2004, 26, 173),

entered into force on 1 May 2004,

amended by the Act of 22 February 2005,

which entered into force on 3 April 2005 – RT I 2005, 15, 87

CHAPTER 1

General Provisions

Section 1 – Scope of application of Act

- (1) This Act provides for basic safety standards for the protection of persons and the environment against the dangers arising from ionising radiation and the rights, obligations and liability of persons upon the use of ionising radiation.
- (2) This Act regulates radiation practices and activities upon which the presence of natural radiation sources may lead to a significant increase in the exposure of workers or members of the public,

* Unofficial translation kindly provided by the Estonian authorities.

1. In implementation of the following texts: Council Directive 96/29/Euratom laying down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionising radiation (OJ No. L 159, 29.06.1996, p. 1), Council Directive 97/43/Euratom on health protection of individuals against the dangers of ionizing radiation in relation to medical exposure, and repealing Directive 84/466/Euratom (OJ No. L 180, 9.07.1997, p. 22), Council Directive 90/641/Euratom on the operational protection of outside workers exposed to the risk of ionizing radiation during their activities in controlled areas (OJ No. L 349, 13.12.1990, p. 21), Council Directive 92/3/Euratom on the supervision and control of shipments of radioactive waste between Member States and into and out of the Community (OJ No. L 35, 12.02.1992, p. 24), Council Directive 89/618/Euratom on informing the general public about health protection measures to be applied and steps to be taken in the event of a radiological emergency (OJ No. L 357, 7.12.1989, p. 31), 93/552/Euratom: Commission Decision establishing the standard document for the supervision and control of shipments of radioactive waste referred to in Council Directive 92/3/Euratom (OJ No. L 268, 29.10.1993, p. 83).
2. RT = *Riigi Teataja* = *State Gazette*.

intervention in cases of radiological emergencies or in cases of lasting exposure resulting from the after-effects of a radiological emergency or a past practice (hereinafter lasting exposure).

- (3) This Act does not apply to exposure to radon in dwellings, to cosmic radiation prevailing at ground level or to aboveground exposure to radionuclides present in the undisturbed earth's crust caused by human activity.
- (4) The provisions of the Administrative Procedure Act (RT I 2001, 58, 354; 2002, 53, 336; 61, 375; 2003, 20, 117; 78, 527) apply to the administrative procedure prescribed in this Act, taking into consideration the specifications arising from this Act.

Section 2 – Radiation practices

For the purposes of this Act, radiation practices are all activities which increase or may increase the exposure of humans to radiation emanating from an artificial source or from a natural radiation source in cases where natural radionuclides are processed in view of their radioactive, fissile or fertile properties. Such activities include, among others:

- 1) the production, processing, use, possession, storage, carriage, import to and export from the state, and interim or final disposal of radioactive substances;
- 2) the operation of any electrical equipment emitting ionising radiation and containing components operating at a potential difference of more than 5 kV.

Section 3 – Fundamental principles of radiation safety

- (1) All new radiation practices must be justified in advance by their economic, social or other benefits in relation to the health detriment they may cause. Such justification shall be reviewed whenever new and important evidence about the efficacy or consequences of existing classes or types of radiation practices is acquired.
- (2) It shall be ensured that, in the context of optimisation, all exposures shall be kept as low as reasonably achievable, economic and social factors being taken into account.
- (3) The sum of the doses from all relevant practices shall not exceed the dose limits laid down on the basis of this Act for exposed workers and members of the public. This principle does not apply to medical exposure.
- (4) The principle provided in subsection (2) of this section applies to exposure caused by all types of radiation practices specified in Section 2 of this Act.
- (5) The deliberate addition of radioactive substances in the production of foodstuffs, toys, personal ornaments and cosmetics, and the import or export of such goods which contain radioactive substances is prohibited.

Section 4 – Organisation of performance of activities related to radiation protection

- (1) The performance of activities related to radiation protection shall be organised by the Ministry of the Environment within the limits of its competence through the Environmental Inspectorate and the Radiation Protection Centre.
- (2) The Radiation Protection Centre is a state agency within the area of government of the Ministry of the Environment the main functions of which are provided for in this Act or legislation established on the basis thereof, and which is authorised to perform activities related to radiation protection and advise the issuers of radiation practice licences and activity licences for qualified experts, and persons exercising supervision.

Section 5 – Obligations arising from international agreements

Visiting inspectors authorised to verify compliance with the terms and conditions of the international agreements and conventions to which the Republic of Estonia is party, shall have access to all objects and information which fall within the scope of application of such agreements and conventions, and shall have the right to obtain samples.

Section 6 – Definitions used in Act

In this Act, and legislation established on the basis thereof, the following definitions are used:

- 1) activity (A): the activity, A, of an amount of a radionuclide in a particular energy state at a given time is the quotient of dN by dt , where dN is the expectation value of the number of spontaneous nuclear transitions from that energy state in the time interval dt ;
- 2) accidental exposure: an exposure of individuals as a result of an accident which does not include emergency exposure;
- 3) decommissioning: all activities performed and measures taken to terminate, in part or in full, the operation of any facility which poses a radiation threat to individuals, including the deactivating and full or partial dismantling of the facility;
- 4) dose rate: dose, received per unit time;
- 5) dose limits: maximum references for the doses resulting from the exposure of workers and members of the public to ionising radiation that apply to the sum of the relevant doses from external exposures in the specified period and the 50-year committed doses (up to age 70 for childhood exposure) from intakes in the same period;
- 6) effective dose: the sum of the equivalent doses in all the tissues and organs of the body weighed by tissue weighting factors which characterise differences in sensitivities to radiation of human organs and tissues;
- 7) equivalent dose: the absorbed dose, in tissue or organ weighted for the type and quality of radiation;
- 8) members of the public: individuals, other than those occupationally or medically exposed;

- 9) reference group of the population: a group comprising individuals whose exposure to a source is reasonably uniform and representative of that of the individuals in the population who are the more highly exposed to that source;
- 10) public exposure: exposure incurred by members of the public from radiation sources, excluding any occupational or medical exposure and the normal background radiation, but including exposure from practices and from intervention situations authorised by a radiation practice licence;
- 11) emergency exposure: an exposure of volunteers implementing the necessary rapid action to bring help to endangered individuals, prevent exposure of a large number of people or save a valuable installation or goods, whereby one of the individual dose limits equal to that laid down for occupational exposure could be exceeded;
- 12) ionising radiation: the direct or indirect transfer of energy in the form of particles or electromagnetic waves of a wavelength of 100 nanometres or less;
- 13) supervised area: an area subject to appropriate supervision for the purpose of protection against ionising radiation;
- 14) radiation source: an apparatus, a radioactive substance or an installation capable of emitting ionising radiation or radioactive substances;
- 15) radiation weighting factor: a dimensionless factor used to weight the tissue or organ absorbed dose in such a way as to take into account extent of health detriment caused by different types of radiation;
- 16) radiological emergency: any situation caused by ionising radiation as a result of which a significant release of radioactive material occurs or is likely to occur, or as a result of which the dose limits of public exposure are likely to be exceeded;
- 17) radiation safety assessment: a review of those aspects of radiation practices which are connected to the protection of individuals and the safety of radiation sources, including an analysis of the safety means and devices within the sources themselves and used during their application, and an analysis of the doses and risks under normal working conditions and in emergency situations;
- 18) exposed workers: persons in an employment or service relationship with a person holding a radiation practice licence, including students, trainees, apprentices and outside workers, and subject to an exposure incurred at work from practices covered by this Act and liable to result in doses exceeding one or other of the dose levels equal to the dose limits for members of the public;
- 19) exposure: the process of being exposed to ionising radiation whereas the effect of exposure is measured by the quantity of the dose;
- 20) exposure pathway: a pathway in the environment that links a contaminant source to a receptor population;
- 21) sealed source: a source whose structure is such as to prevent, under normal conditions of use, any dispersion of the radioactive substances into the environment;

- 22) tissue weighting factor: a dimensionless factor which takes account of the different sensitivity which organs and tissues may have to radiation and which is used to weight the equivalent dose in a tissue or organ;
- 23) controlled area: an area subject to special rules for the purpose of protection against ionising radiation or of preventing the spread of radioactive contamination and to which access is controlled;
- 24) occupational exposure: exposure which an exposed worker incurs or is likely to incur in the course of his or her work performed on the basis of a radiation practice licence;
- 25) qualified experts: Persons having the knowledge and training needed to carry out tests enabling doses to be assessed, and to give advice to individuals in order to ensure the effective protection of the individuals and the correct operation of protective equipment, and whose capacity to act as a qualified expert is recognised pursuant to the established procedure;
- 26) natural exposure: exposure caused by natural radiation sources;
- 27) natural radiation source: source of ionising radiation from natural terrestrial or cosmic origin;
- 28) final disposal: placing of radioactive waste in waste disposal sites which conform to certain requirements or locations which are adapted for such purposes, without the intent to retrieve the waste later;
- 29) place of origin and place of destination: places situated in two different countries, accordingly called country of origin and country of destination of radioactive waste;
- 30) medical exposure: exposure of individuals as part of assessment of their state of health, their own medical diagnosis or treatment, exposure of individuals helping patients undergoing medical diagnosis or treatment, other than as part of their occupation and where such individuals are aware of the exposure, and exposure of volunteers participating in medical and biomedical research programmes;
- 31) medical radiological procedure: any procedure concerning medical exposure;
- 32) absorbed dose: the ionising radiation energy absorbed per unit mass; in this Act, absorbed dose denotes the dose averaged over a tissue or an organ;
- 33) potential exposure: exposure, that is not expected to be delivered with certainty, but with a probability of occurrence that can be estimated in advance;
- 34) radioactive substance: any substance that contains one or more radionuclides the activity or specific activity of which cannot be disregarded as far as radiation protection is concerned;
- 35) radioactive emissions: radioactive substances emitted in the course of radiation practices and released into the environment with the aim of their diffusion;
- 36) radioactive waste: any material or object which contains or is contaminated by radio-nuclides, the activity or specific activity of which exceeds the established clearance levels and for which no future use is foreseen;

- 37) radioactive waste storage facility: a facility conforming to the established requirements within the premises of a producer of radioactive waste, prescribed for the collection, storage, pre-treatment or packaging of radioactive waste;
- 38) conditioning of radioactive waste: all operations related to the production of packaging for radioactive waste performed with the aim of rendering the packaging easy to handle;
- 39) radioactive waste management: all types of activity, including decommissioning, related to the pre-treatment, treatment, conditioning, carriage, storage and interim or final disposal of radioactive waste;
- 40) radioactive waste management facility: a facility specifically intended for the receipt of radioactive waste from the producers thereof, and the collection, treatment, conditioning and interim or final disposal of radioactive waste;
- 41) packaging for radioactive waste: the final result of conditioning operations prepared in conformity with the requirements for managing, including mould castings and any containers or artificial barriers;
- 42) radionuclide: a type of atomic nucleus which is capable of spontaneous radioactive decay, distinguishable by its atomic mass and atomic number;
- 43) intervention: a human activity that prevents or decreases the exposure of individuals to radiation from sources which are not part of a practice or which are out of control, by acting on sources, transmission pathways and individuals themselves;
- 44) intervention level: a value of avertable equivalent dose or avertable effective dose, above which intervention measures should be considered, whereby the avertable dose is solely that associated with the exposure pathway and radiation source to which the intervention measure is to be applied;
- 45) intake: radionuclides entering the body via the respiratory tract, digestive tract or skin;
- 46) action level: value, expressed in terms of dose rate or activity concentrations limit, which when exceeded in emergency situations requires the implementation of measures to protect human health;
- 47) approved dosimetric service: a body responsible for the calibration of individual monitoring devices for exposed workers, or for the measurement of radioactivity in the human body or in biological samples, or for assessment of doses, and who holds an activity licence issued by a competent authority;
- 48) nuclear fuel cycle: all operations related to the production of nuclear energy, including the mining and treatment of ores containing nuclear materials, isotopic enrichment, manufacture, use and storage of nuclear fuel, recycling of spent nuclear fuel and treatment and final disposal of produced waste;
- 49) nuclear material: plutonium except that with isotopic concentration exceeding 80% in plutonium-238; uranium-233, uranium-235; uranium enriched in the isotopes 233 or 235; uranium containing the mixture of isotopes as occurring in nature other than in the form of ore or ore-residue, thorium; any material containing one or more of the foregoing;

- 50) clearance level: value, expressed in terms of activity concentrations or total activity, at or below which radioactive substances or materials containing radioactive substances arising from any practice subject to the requirement of a radiation practice licence may be exempt, pursuant to the procedure established by the Minister of the Environment, from the requirements of this Act;
- 51) waste acceptance criteria: criteria or characteristics which characterise the suitability of radioactive waste packaging for handling and interim or final disposal;
- 52) carriage: operations related to the transport of radioactive substances from the place of origin to the place of destination, including loading and unloading;
- 53) outside worker: any worker of category A, performing activities in any sort of controlled area, including repair or maintenance of radiation emitting parts of radiation sources, whether employed temporarily or permanently by an outside undertaking, including trainees, apprentices and students;
- 54) exemption value: value, expressed in terms of activity concentrations or total activity, at or below which radioactive substances may be exempt from the requirement of a radiation practice licence.

CHAPTER 2

National Planning of Radiation Protection

Section 7 – National development plan for radiation protection

- (1) Radiation protection shall be planned on the national level through the national development plan for radiation protection.
- (2) The national development plan for radiation protection shall address the situation in the area of radiation protection in Estonia, the planned objectives regarding the organisation and rationalisation of radiation protection, and measures to be taken to achieve such objectives.
- (3) The provisions of the Administrative Procedure Act concerning open proceedings apply to the preparation, amendment and repeal of the national development plan for radiation protection, taking account of the specifications provided for in this Act.

Section 8 – Renewal of national development plan for radiation protection

- (1) Renewal of the national development plan for radiation protection means the regular review and amendment of the development plan. The provisions concerning the procedure for preparation of the national development plan for radiation protection apply to the renewal of the development plan.
- (2) The national development plan for radiation protection shall be renewed once every ten years after the preparation or renewal of the development plan.

Section 9 – Initiation of preparation of draft national development plan for radiation protection

- (1) Preparation of a draft national development plan for radiation protection shall be initiated by the Minister of the Environment.
- (2) The notice concerning the intended preparation of the draft national development plan for radiation protection shall set out a brief overview of the planned content and objectives of the plan.
- (3) The main policies of the draft national development plan for radiation protection shall be published on the website of the Ministry of the Environment.

Section 10 – Preparation of draft national development plan for radiation protection

- (1) The Ministry of the Environment shall organise the preparation of the draft national development plan for radiation protection.
- (2) Representatives of relevant state agencies, undertakings, non-profit associations, foundations and civil law partnerships as well as other interested persons shall be involved in the preparation of the draft national development plan for radiation protection.

Section 11 – Public display of draft national development plan for radiation protection and public meeting

- (1) The Ministry of the Environment shall organise the public display of the draft national development plan for radiation protection, and shall call at least one public meeting to discuss the draft development plan.
- (2) The time and location of the public display of the draft national development plan for radiation protection shall be communicated at least two weeks prior to the beginning of the public display in the official publication *Ametlikud Teadaanded*³, in at least one national newspaper and on the website of the Ministry of the Environment. The duration of the public display of the draft national development plan for radiation protection shall be at least one month.
- (3) The time and location of the public meeting to discuss the draft national development plan for radiation protection shall be communicated at least two weeks prior to the public meeting in the official publication *Ametlikud Teadaanded*, in at least one national newspaper and the website of the Ministry of the Environment.

Section 12 – Consideration of proposals and objections presented during public display of and at public meeting concerning draft national development plan for radiation protection

- (1) The Ministry of the Environment shall organise the review of the proposals and objections which are presented during the public display of and at the public meeting concerning the draft national development plan for radiation protection and, if necessary, shall organise the amendment of the draft development plan.

3. *Ametlikud Teadaanded* = *Official Notices*.

- (2) The Ministry of the Environment shall respond to proposals and objections that are not taken into consideration within two months after the end of the public display or the date of the public meeting.

Section 13 – Approval of national development plan for radiation protection

The national development plan for radiation protection shall be approved by a regulation of the government of the Republic.

CHAPTER 3

Radiation Practice Licence

Section 14 – Radiation practice licence

A radiation practice licence gives a person the right to engage in radiation practices.

Section 15 – Issuer of radiation practice licences

Radiation practice licences are issued by the Ministry of the Environment.

Section 16 – Obligation to apply for radiation practice licence

- (1) It is prohibited to commence radiation practices or to perform radiation work for which, pursuant to this Act, a radiation practice licence is required, without a radiation practice licence.
- (2) A radiation practice licence is required for radiation practices, including:
- 1) the operation, closure and decommissioning of any facility involved in the nuclear fuel cycle;
 - 2) the deliberate addition of radioactive substances in the production and manufacture of medical products and the import or export of such goods;
 - 3) the deliberate addition of radioactive substances in the production and manufacture of consumer goods and the import or export of such goods;
 - 4) the operation of radiation sources and administration of radioactive substances to persons or animals for the purpose of assessment of their state of health, for medical or veterinary diagnosis, treatment or research;
 - 5) the use of X-ray sets or radioactive sources for industrial radiography and roentgenography or processing of products or for research purposes and the use of accelerators except electron microscopes;
 - 6) work activities within which the presence of natural radiation sources leads to a significant increase in the exposure which cannot be disregarded from the radiation protection point of view;

- 7) managing of radioactive waste.

Section 17 – Use of radiation sources without radiation practice licence

- (1) A radiation practice licence is not required for activities upon which the activity concentrations or total activity of used radionuclides is less than the exemption value.
- (2) The bases for calculation of exemption values, and the exemption values for radionuclides shall be established by a regulation of the Government of the Republic.
- (3) An apparatus containing a radioactive substance in a quantity exceeding the exemption value may be used without a radiation practice licence, provided that it meets the following requirements simultaneously:
 - 1) the radioactive substance is a gamma radiation source which is constructed in the form of a sealed source;
 - 2) it does not cause, in normal operating conditions, a dose rate exceeding $1 \mu\text{Sv h}^{-1}$ at a distance of 0.1 m from the surface of the apparatus;
 - 3) the apparatus has valid type approval;
 - 4) the plan for rendering the apparatus harmless upon termination of the use of the apparatus have been approved by the Ministry of the Environment.
- (4) The operation of any electrical equipment emitting ionising radiation is permitted without a radiation practice licence provided that this operation does not cause, in normal operating conditions as stated by the manufacturer in the user manual, a dose rate exceeding $1 \mu\text{Sv h}^{-1}$ at a distance of 0.1 m from any point of the surface of the apparatus, and that the equipment has valid type approval.
- (5) The operation of any cathode ray tube intended for the display of visual images, or other electrical apparatus operating at a potential difference not exceeding 30 kV is permitted without a radiation practice licence, provided that this operation does not cause, in normal operating conditions as stated by the manufacturer in the user manual, a dose rate exceeding $1 \mu\text{Sv h}^{-1}$ at a distance of 0.1 m from any accessible surface of the apparatus.
- (6) The requirements of this Act need not be applied to radioactive substances and materials contaminated therewith if the radioactive substances which result from radiation practices have activity concentrations or total activity so low as to not require, from the radiation protection point of view, their processing and storage as radioactive waste. Such decision shall be made by the Minister of the Environment based on the request of the holder of the radiation practice licence.
- (7) The clearance levels for radioactive substances and materials contaminated with radioactive substances resulting from radiation practices, and the requirements for their clearance, recycling and reuse shall be established by a regulation of the Minister of the Environment.

Section 18 – Application for radiation practice licence

- (1) In order to obtain a radiation practice licence, an applicant shall submit an application to the Ministry of the Environment with the following information and documents:
 - 1) the business name or name, registry code or personal identification code, and contact details of the applicant;
 - 2) the objective and description of the radiation practice, the layout of the location and facility for the radiation practice, and information concerning the technology and equipment to be used;
 - 3) the justification for and description of the radiation practice;
 - 4) information on the radiation source;
 - 5) information on the radioactive waste or emissions created in the process of the radiation practice, and concerning the radioactive waste storage facility waste and waste acceptance criteria thereof;
 - 6) the plan for rendering the radiation source harmless after termination of the use of the radiation source which, in the case of radiation practice involving moderate or high risk, must be approved by a qualified expert;
 - 7) if the licence is applied for the managing of radioactive waste, information concerning the methods to be used upon the permanent termination of the operation of the management facility;
 - 8) a plan for radiation monitoring and information on the equipment to be used for radiation monitoring;
 - 9) (repealed – 22.02.2005 entered into force 03.04.2005 – RT I 2005, 15, 87);
 - 10) radiation safety assessment and measures for guaranteeing radiation safety;
 - 11) an emergency response plan in the case of radiation practices involving high risk;
 - 12) description of the radiation safety quality system;
 - 13) information on exposed workers and their professional training.
- (2) If a radiation practice licence is applied for in order to import radioactive substances into the Republic of Estonia, the applicant for the licence shall submit the information specified in clauses (1) 1), 3) and 4) of this section.
- (3) Radiation practices are divided into the following risk categories depending on the risk presented by the radiation practice or the radiation source:
 - 1) low risk radiation practices, through which an exposed worker receives or is liable to receive an effective dose of up to 1 mSv in a year;

- 2) moderate risk radiation practices, through which an exposed worker receives or is liable to receive an effective dose of up to 6 mSv in a year;
 - 3) high risk radiation practices, through which an exposed worker receives or is liable to receive an effective dose exceeding 6 mSv in a year.
- (4) The Ministry of the Environment shall preserve the documents presented together with an application for a radiation practice licence for at least ten years after termination of the activity described in the licence.

Section 19 – Information and conditions set out in radiation practice licences

- (1) A radiation practice licence shall set out the following:
- 1) the number and date of issue of the radiation practice licence;
 - 2) the business name and registry code, or name and personal identification code, and address of the holder of the radiation practice licence;
 - 3) the name of the radiation practice;
 - 4) the term of validity of the radiation practice licence;
 - 5) a description of the radiation sources;
 - 6) the location where the radiation practice takes place and a description of the facility and premises;
 - 7) the manners in which radioactive waste is managed, and the maximum quantities and management facilities for radioactive waste;
 - 8) the maximum quantities of radioactive emissions, and means of releasing them into the environment;
 - 9) the requirements for radiation safety and radiation monitoring arising from the given radiation practice and its specific character;
 - 10) the risk category of the radiation practice.
- (2) A radiation practice licence shall be issued in two original copies, one of which shall remain with the Ministry of the Environment and the other shall be retained by the holder of the radiation practice licence. A radiation practice licence shall be sent to the applicant by registered letter or shall be delivered against a signature by the administrative agency which issues the licence.

Section 20 – Application of open proceedings

- (1) In the case of the radiation practices specified in clauses 16 (2) 1), 6) and 7) of this Act, the provisions concerning open proceedings apply to the procedure for issue or amendment of radiation practice licences.

- (2) The provisions concerning open proceedings do not apply to the procedure for amendment of radiation practice licences upon amendment of the information specified in clause 18 (1) 1) of this Act, and to the procedure for revocation of radiation practice licences.

***Section 21 – Public display of applications for radiation practice licences
and draft radiation practice licences***

The time and location of the public display of an application for a radiation practice licence and the draft radiation practice licence shall be communicated at least two weeks prior to the beginning of the public display in the official publication *Ametlikud Teadaanded*, in at least one national newspaper and on the website of the Ministry of the Environment.

Section 22 – Refusal to issue radiation practice licences

The Ministry of the Environment shall refuse to issue a radiation practice licence if:

- 1) the activity for which the radiation practice licence is applied involves or is likely to involve a risk to national or international security;
- 2) the activity for which the radiation practice licence is applied does not conform to the requirements provided by legislation;
- 3) false information is submitted in the application for the radiation practice licence;
- 4) the applicant for the radiation practice licence does not employ exposed workers with requisite professional training;
- 5) the location of the radiation practice set out in the application or other conditions do not allow for compliance with radiation safety requirements.

Section 23 – Term of validity of radiation practice licences

A radiation practice licence shall be issued for the term of up to five years.

Section 24 – Obligation to notify of changes in radiation practice

The holder of a radiation practice licence shall give prior notice to the Ministry of the Environment if the holder of the licence intends to:

- 1) implement new or additional radiation sources;
- 2) terminate the use of the radiation source specified in the radiation practice licence;
- 3) deliver the radiation source to another person or dispose of the source as radioactive waste;
- 4) change the radiation practice, or the manner of management, maximum quantities or management facility of produced radioactive waste determined by the radiation practice licence;

- 5) change the location, facilities or premises where the radiation practice is carried out;
- 6) employ a new radiation safety specialist;
- 7) change the radiation practice described in the licence in any other significant manner.

Section 25 – Amendment of radiation practice licences

- (1) The Ministry of the Environment shall amend a radiation practice licence if:
 - 1) the holder of the licence has notified of a change specified in Section 24 of this Act;
 - 2) the legislation which constituted the basis for the requirements set by the radiation practice licence has been amended;
 - 3) the risk category of the radiation practice determined by the licence has changed as a result of measures applied in the course of the radiation practice;
 - 4) the information specified in clause 18 (1) 1) of this Act has changed.
- (2) In the cases specified in clauses 24 4), 5) and 7) of this Act which involve a significant change in terms of radiation protection, the Ministry of the Environment may require that the holder of the licence submit an application for a new radiation practice licence.
- (3) The Ministry of the Environment shall send a notice concerning amendment of a radiation practice licence or of the need to re-apply for a licence to the holder of the radiation practice licence by post.

Section 26 – Revocation of radiation practice licences

- (1) The issuer of a radiation practice licence shall revoke a radiation practice licence, and give prior notice of the revocation to the holder of the radiation practice licence, if:
 - 1) the facts specified in Section 22 of this Act are ascertained with regard to the activities of the holder of the licence;
 - 2) the holder of the licence fails to comply with the requirements established by the radiation practice licence;
 - 3) the holder of the licence fails to perform the obligation provided in Section 27 of this Act;
 - 4) the activity of the holder of the licence who is a legal person is terminated or the holder of the licence who is a natural person is deceased;
 - 5) the Ministry of the Environment has required the holder of the licence to submit an application for a new licence arising from the provisions of subsection 25 (2) of this Act but the holder of the licence fails to re-apply.

- (2) A decision to revoke a radiation practice licence shall include the following information:
- 1) the business name and registry code, or name and personal identification code, and address of the holder of the radiation practice licence;
 - 2) the number of the radiation practice licence;
 - 3) the name of the permitted radiation practice;
 - 4) the reasons for revocation of the radiation practice licence and a reference to the legislation on the basis of which the radiation practice licence is revoked;
 - 5) the date on which the decision is made.

Section 27 – Suspension of radiation practice by holder of radiation practice licence

If doses exceeding the established dose levels are detected in the course of a radiation practice, the holder of the radiation practice licence shall suspend the radiation practice until the reasons for the overexposure are determined and eliminated.

Section 28 – Time limits for proceedings to issue, amend or revoke radiation practice licences, specific requirements for and format of applications for radiation practice licences, and format of radiation practice licences

The time limits for proceedings to issue, amend or revoke radiation practice licences, the specific requirements for and format of applications for radiation practice licences, and the format of radiation practice licences shall be established by a regulation of the Minister of the Environment.

Section 29 – State fee for application for radiation practice licence

Upon application for a radiation practice licence, the applicant shall pay a state fee pursuant to the rate provided for in the State Fees Act (RT I 1997, 80, 1344; 2001, 55, 331; 53, 310; 56, 332; 64, 367; 65, 377; 85, 512; 88, 531; 91, 543; 93, 565; 2002, 1, 1; 18, 97; 23, 131; 24, 135; 27, 151 and 153; 30, 178; 35, 214; 44, 281; 47, 297; 51, 316; 57, 358; 58, 361; 61, 375; 62, 377; 90, 519; 102, 599; 105, 610; 2003, 4, 20; 13, 68; 15, 84 and 85; 20, 118; 21, 128; 23, 146; 25, 153 and 154; 26, 156 and 160; 30, correction notice; 51, 352; 66, 449; 68, 461; 71, 471; 78, 527; 79, 530; 81, 545; 88, 589 and 591; 2004, 2, 7; 6, 31; 9, 52 and 53; 14, 91 and 92).

CHAPTER 4

Obligations of Holders of Radiation Practice Licences

Section 30 – Principal obligations of holders of radiation practice licences

The holder of a radiation practice licence has the obligation to:

- 1) be responsible for radiation safety and guarantee the physical protection of the radiation sources in the holder's possession;

- 2) prepare the rules necessary for performing radiation practices and instructing exposed workers;
- 3) organise the treatment and conditioning of radioactive waste if such activity is necessary for modifying the properties of the radioactive waste prior to its release into the environment, and to arrange the interim storage or final disposal of the radioactive waste;
- 4) take an annual inventory of the radiation sources and submit the results of the inventory to the Radiation Protection Centre by 1 March of the following year;
- 5) provide training and radiation safety instruction for exposed workers commensurate with the nature of their work and workplace conditions;
- 6) organise the medical examination of exposed workers;
- 7) upon a change of ownership of a radiation source, provide the new owner with comprehensive information to ensure radiation safety;
- 8) immediately inform the Radiation Protection Centre and the alarm centre of the Rescue Board of accidents which take place in the course of radiation practices and of events of exposure in doses exceeding the dose limits;
- 9) alleviate the consequences of emergencies;
- 10) ensure the regular control and calibration of measuring instruments used and be responsible for their fitness for use and appropriate use;
- 11) ensure the monitoring of the doses incurred by exposed workers and submission of the obtained information to the dose registry;
- 12) guarantee that all building design documentation concerning facilities is reviewed, and that new radiation sources to be used are approved beforehand by a qualified expert;
- 13) render a radiation source harmless after its use is terminated pursuant to the plan for rendering the radiation source harmless submitted in the application for the licence;
- 14) provide certification, at the request of competent authorities, of the legality of the possession of radioactive substances or radiation apparatuses containing radioactive substances;
- 15) prepare an emergency plan if the person engages in high risk radiation practices and test the plan pursuant to the requirements and with the frequency established by legislation;
- 16) improve the technologies, equipment and techniques used;
- 17) develop and implement a radiation safety quality system.

Section 31 – Radiation safety specialist

- (1) The holder of a radiation practice licence may appoint a radiation safety specialist with the duty to organise compliance with radiation safety requirements. Appointment of a radiation safety expert is mandatory if the holder of a licence employs more than ten exposed workers.

- (2) Appointment of a radiation safety specialist does not release the holder of a radiation practice licence of the responsibility to guarantee radiation safety.

Section 32 – Radiation safety quality system

- (1) The holder of a radiation practice licence shall prepare a radiation safety quality system to ensure compliance with the requirements provided for in this Act and legislation established on the basis thereof and with the conditions set by the radiation practice licence.
- (2) A radiation safety quality system shall set out the following:
 - 1) planned and systematic activity aimed at ensuring radiation safety;
 - 2) an analysis of the duties of workers and the requirements for the skills needed to operate the radiation source;
 - 3) a system for controlling compliance with the radiation safety requirements;
 - 4) a description of the procedures for the supply and use of materials, and of the procedures for supervision over radiation safety and controlling the functioning of safety systems.

Section 33 – Maintaining records on nuclear material and notification of nuclear material

- (1) A person in possession of nuclear material is required to maintain records on the nuclear material used in the person's undertaking from the time of its acquisition until the time of its storage as radioactive waste, rendering the material harmless or change of ownership, and to appoint a person responsible for maintaining the records of nuclear material.
- (2) A person in possession of nuclear material shall immediately inform the Radiation Protection Centre of changes in the quantity of the nuclear material.

Section 34 – Safety of radioactive source

- (1) The holder of a radiation practice licence shall guarantee the safety of a radiation source by its correct installation, appropriate location in the premises, and by marking the premises and the radiation source as required, and by using adequate protection devices.
- (2) Radiation sources may be installed, repaired and maintained by persons who hold a radiation practice licence. Repair and maintenance work not related to the radiation emitting parts of radiation sources may be performed without a radiation practice licence.
- (3) The requirements for the premises where radiation sources are located, the marking of such premises and the radiation sources, and the rules for the performance of radiation practices shall be established by a regulation of the Minister of the Environment.

Section 35 – Carriage of radioactive substances and apparatuses containing radioactive substances

- (1) Radioactive substances and apparatuses containing radioactive substances in which the activity concentrations or total activity of radionuclides is greater than the exemption value shall be carried by road, railway, air or waterway pursuant to the procedure provided by legislation concerning transport of dangerous goods. Transboundary movement of the above shall be compatible with international agreements binding on the Republic of Estonia and pursuant to the legislation of the Republic of Estonia.
- (2) The possessor of radioactive substances or apparatuses containing radioactive substances shall guarantee that:
 - 1) the packages conform to the established safety requirements;
 - 2) the mode of transport used ensures safety;
 - 3) the carrier has been informed of the safety requirements set for the carriage of the radioactive substances or the apparatuses containing radioactive substances.

Section 36 – Radiation safety instructional materials

The Radiation Protection Centre shall issue instructional materials for persons holding radiation practice licences, in order to ensure compliance with the requirements of this Act through the implementation of methods, procedures and other actions involved in good practice.

CHAPTER 5

Guarantee of Radiation Safety

Division 1

Protection of Members of Public and Exposed Workers

Section 37 – Radiation sources register and nuclear material register

- (1) The radiation sources register and the nuclear material register are state agency databases within the meaning of the Databases Act (RT I 1997, 28, 423; 1998, 36/37, 552; 1999, 10, 155; 2000, 50, 317; 57, 373; 92, 597; 2001, 7, 17; 17, 77; 2002, 61, 375; 63, 387; 2003, 18, 107; 26, 158).
- (2) The Radiation Protection Centre shall maintain the registers of radiation sources and nuclear material.
- (3) The Radiation Protection Centre shall enter information concerning existing radiation sources, and radiation sources imported into the Republic of Estonia in the radiation sources register. Entries shall be made either for the import or use of a radiation source based on the information contained in the radiation practice licence.
- (4) The Radiation Protection Centre shall make entries in the nuclear materials register based on the information submitted by the persons in possession of nuclear material.

Section 38 – Dose limits

The limits for effective doses for exposed workers and members of the public, and the limits for equivalent doses for the lens of the eye, the skin and extremities shall be established by a regulation of the government of the Republic.

Section 39 – Guarantee of radiation safety in the workplace

- (1) For the purposes of radiation protection, where there is a possibility that radiation arising from a radiation practice could cause exposure to ionising radiation in excess of the effective doses for members of the public or equivalent doses for exposed workers established by this Act to the extent of more than one tenth of such values per year, the holder of a radiation practice licence shall consult with a qualified expert on the need to apply additional safety measures.
- (2) Workplaces shall be divided into the following areas depending on the type of premises and building in which the radiation source is located, the category of the radiation source, and the radiation risk category:
 - 1) controlled areas;
 - 2) supervised areas.
- (3) The holder of a radiation practice licence shall guarantee radiation monitoring of controlled areas and supervised areas in compliance with the requirements provided for in subsection (4) of this section.
- (4) Depending on the need, monitoring of controlled and supervised areas shall include:
 - 1) monitoring of dose rates;
 - 2) monitoring of levels of radioactive contaminants in the air and on surfaces together with testing the properties of the radioactive waste, and determining their physical and chemical status.
- (5) The holder of a radiation practice licence shall register the results of monitoring and shall preserve the results during the entire period of operation in the area of radiation practices.

Section 40 – Categories of exposed workers

Exposed workers are categorised as follows:

- 1) exposed category A workers: those exposed workers who are liable to receive an effective dose greater than 6 mSv or an equivalent dose greater than three tenths of the dose limits for the lens of the eye, skin and extremities established on the basis of this Act;
- 2) exposed category B workers: those exposed workers who are not classified as exposed category A workers.

Section 41 – Age limits for radiation work

Persons under the age of eighteen years shall not be permitted to perform any radiation practices.

Section 42 – Estimation of effective and equivalent doses

- (1) The Radiation Protection Centre shall guarantee the estimation of effective and equivalent doses incurred by members of the public and reference groups of the population.
- (2) The procedure for monitoring and estimation of effective doses incurred by exposed workers and members of the public, and the dose coefficient values, and radiation and tissue weighting factor values for doses resulting from radionuclide intake shall be established by a regulation of the Minister of the Environment.

Section 43 – Individual monitoring

- (1) Individual monitoring of exposed workers shall be carried out by a recognised dosimetric service.
- (2) Individual monitoring at the workplace shall be systematic for exposed category A workers. In cases where exposed category A workers are liable to receive significant internal contamination due to inhalation or ingestion of radionuclides, the monitoring system specified in subsection 39 (4) of this Act must enable assessment thereof.
- (3) Monitoring for exposed category B workers shall be sufficient to demonstrate that such workers are correctly classified in category B.

Section 44 – Dose register

- (1) Data concerning the individual monitoring of exposed workers shall be maintained in the national dose register for exposed workers.
- (2) The national dose register for exposed workers shall be established by the Government of the Republic.
- (3) The national dose register for exposed workers is a state register as defined in the Databases Act.
- (4) The national dose register for exposed workers shall be maintained by the Radiation Protection Centre.
- (5) Data in the national dose register for an exposed worker shall be preserved during the entire time the exposed worker is engaged in radiation practices. After that, the data concerning a person shall be preserved until the time that the person attains or would have attained 75 years of age, but not for a shorter period than thirty years after the person no longer engages in radiation practices.
- (6) The following person shall have access to the results of the personal monitoring of exposed workers:

- 1) an exposed worker himself or herself, with regard to data concerning his or her person;
- 2) a specialist providing occupational health services to an exposed worker;
- 3) the holder of a radiation practice licence, with regard to information concerning the exposed workers employed thereby;
- 4) persons carrying out radiation safety inspection;
- 5) persons engaged in the research of radiation and its effects.

Section 45 – Qualified expert

- (1) A natural person who holds an activity licence of a qualified radiation expert (hereinafter activity licence) has the right to operate as a qualified expert.
- (2) The Ministry of the Environment shall issue an activity licence to an applicant on the basis of an application.
- (3) An activity licence may be applied for by any natural person who:
 - 1) has acquired higher education in an institution of higher education or university which holds an education licence issued by the Ministry of Education and Research or which grants documents attesting education which are recognised in the Republic of Estonia;
 - 2) has at least five years of practical experience in the field of radiation safety;
 - 3) is knowledgeable of the procedure for radiation protection and of legislation of the Republic of Estonia and international legislation concerning radiation.
- (4) Activity licences shall be granted for a period of five years.
- (5) An activity licence shall be denied if:
 - 1) the applicant does not have the required qualifications;
 - 2) the applicant has through his or her earlier economic activities during the three years preceding his or her application for a licence violated the requirements established by legislation;
 - 3) an earlier activity licence held by the applicant has been revoked during the three years preceding his or her application for a licence.
- (6) In the following cases, the Ministry of the Environment shall suspend the validity of an activity licence or revoke a licence, giving prior written notice thereof to the holder of the licence:
 - 1) the applicant for the activity licence has submitted inaccurate information;
 - 2) the person to whom the activity licence was issued fails to comply with the requirements for estimation of doses, or radiation safety requirements;

- 3) facts specified in subsection (5) of this section become evident.
- (7) The format of activity licences of qualified experts and applications therefor and the procedure for the issue, extension, suspension and revocation of activity licences shall be established by a regulation of the Minister of the Environment.

Section 46 – Medical surveillance of exposed workers

- (1) The holder of a radiation practice licence shall guarantee the medical surveillance of exposed category A workers.
- (2) In each case where one of the established dose limits has been exceeded, the holder of a radiation practice licence shall immediately have the exposed workers concerned undergo a medical examination.
- (3) Medical surveillance of exposed workers shall be carried out pursuant to the procedure provided for in the Occupational Health and Safety Act (RT I 1999, 60, 616; 2000, 55, 362; 2001, 17, 78; 2002, 47, 297; 63, 387; 2003, 20, 120).

Section 47 – Guaranteeing safety of outside workers and individual monitoring of outside workers

- (1) The holder of a radiation practice licence shall guarantee radiation safety for outside workers on equal grounds with exposed workers employed thereby, and provide outside workers with training and instruction on radiation protection, taking account of the specific nature of their work and the conditions on their workplace.
- (2) The requirements for the results of individual monitoring of outside workers, and for formalising such results, and for the standard format for the dose chart of outside workers shall be established by a regulation of the Minister of the Environment.

Section 48 – Radiation safety training of outside workers

The requirements for radiation safety training of outside workers shall be established by a regulation of the Minister of the Environment.

Section 49 – Increased natural radiation

- (1) Work activities within which the presence of natural radiation sources may lead to a significant increase in the exposure of workers or of members of the public are the following:
 - 1) work at mineral springs, in caves, mines or underground constructions;
 - 2) work with substances which contain radioactive substances occurring in nature;
 - 3) work of air crews in high-altitude flights.
- (2) The Radiation Protection Centre shall ensure the identification, by means of surveys or by any other appropriate means, of work activities where workers are likely to incur doses in excess of

the annual effective dose limit of public exposure established by this Act. Such activities shall be deemed to be radiation practices and a radiation practice licence shall be obtained for the performance thereof.

- (3) In order to protect air crew who, due to exposure to cosmic radiation, are liable to be subject to exposure in excess of the annual effective dose limit of public exposure established by this Act, the employer shall:
- 1) organise assessment of the doses resulting from the exposure;
 - 2) take into account the assessed exposure when organising work schedules;
 - 3) inform the workers concerned of the health risks their work involves;
 - 4) apply special measures for the protection of the health of female workers during pregnancy and breastfeeding.

*Division 2
Radiation Safety upon Medical Exposure*

Section 50 – Duties of health care professionals upon radiation practices

Health care professionals administering medical radiological procedures are required to:

- 1) administer the medical radiological procedures in compliance with the principles of justification and optimisation;
- 2) inform patients of the risk of ionising radiation;
- 3) obtain information, based on documentation in their possession, of previous medical radiological procedures administered to the patient;
- 4) to ensure the safety of radiation sources and good working order of the protective systems;
- 5) ensure that radiation is administered only in necessary amounts and to the appropriate parts of the body;
- 6) ensure that radioactive substances are administered to patients in correct doses.

Section 51 – Protection of persons undergoing medical exposure

Radiation protection requirements set for medical radiological procedures and requirements for protection of persons undergoing medical exposure shall be established by a regulation of the Minister of Social Affairs.

CHAPTER 6

Intervention

Section 52 – Principles of implementation of intervention

- (1) In cases of radiological emergencies or in cases of lasting exposure, intervention shall be undertaken if the reduction in detriment due to radiation is sufficient to justify the harm and costs of the intervention.
- (2) The form, scale and duration of the intervention shall be optimised so that the benefit of the reduction in health detriment less the detriment associated with the intervention, will be maximised.

Section 53 – Intervention preparation

- (1) A crisis management plan for responding to a radiological emergency shall be prepared pursuant to the Emergency Preparedness Act (RT I 2000, 95, 613; 2002, 61, 375; 63, 387; 2003, 88, 594).
- (2) The Radiation Protection Centre shall participate in the preparation of the national crisis management plan for responding to a radiological emergency, the testing of such plan and the practical management of possible crises.
- (3) Intervention levels and action levels, and limits for emergency exposure which constitute the basis for preparation of the national crisis management plan for responding to a radiological emergency and implementation of measures for protecting the public shall be established by a regulation of the Minister of the Environment.

Section 54 – Intervention in cases of lasting exposure

- (1) The Radiation Protection Centre shall guarantee, in the course of monitoring, the ascertainment of areas contaminated as a result of lasting exposure.
- (2) In co-operation with the agencies involved in dealing with emergencies, the Radiation Protection Centre shall ensure that:
 - 1) the areas contaminated by radiation and high radiation areas are demarcated;
 - 2) arrangements are made for the monitoring of the demarcated areas;
 - 3) any appropriate intervention is implemented;
 - 4) access to the demarcated area is regulated.

Section 55 – Potential exposures upon radiation emergencies

The Radiation Protection Centre shall organise the estimation of the temporal and spatial distribution of radioactive substances dispersed in the event of a possible radiological emergency and of the corresponding potential exposures and, depending on the extent of a radiological emergency, shall advise the units directing the management of radiation emergencies.

Section 56 – Monitoring of persons participating in intervention operations or incurring emergency exposure

- (1) Persons directing the responding to emergencies within the meaning of the Emergency Preparedness Act shall ensure that the volunteers participating in intervention operations and persons present in the area of accidental exposure undergo individual monitoring.
- (2) In the case of accidental exposure or emergency exposure, the Radiation Protection Centre shall guarantee the assessment of individual doses as necessary, and reporting of the results of assessment to the doctor conducting the individual monitoring.
- (3) The cost of individual monitoring shall be covered from the reserve capital of the Government of the Republic and subsequently shall be collected from the person who was responsible for the emergency.

Section 57 – System for early warning of transboundary radiation hazard

The Radiation Protection Centre shall ensure the operation of the system for early warning of transboundary radiation hazard.

CHAPTER 7

Radioactive Waste and Emissions

Section 58 – General requirements for managing of radioactive waste and radioactive emissions

- (1) The holder of a radiation practice licence shall guarantee the safe management of radioactive waste and radioactive emissions created in the course of radiation practices and shall make sure that:
 - 1) radioactive waste is managed such that the estimated harmful effect on future generations of such practices will not exceed the effect permitted by this Act or legislation established on the basis thereof;
 - 2) the activity and quantities of created radioactive waste and emissions are as low as possible;
 - 3) the biological, chemical and other risks are taken into account, considering the reciprocal effect that different stages in radioactive waste production have on the management thereof;

- 4) radioactive waste is delivered to radioactive waste management facilities not later than within five years after their production.
- (2) The holder of a radiation practice licence issued for the management of radioactive waste shall ensure the safety of the radioactive waste management facility during the entire time of its operation.
- (3) The Ministry of the Environment may make proposals for the improvement of the radiation safety of radioactive waste management facilities to the holders of radiation practice licences. In doing so, it must be taken into consideration that the decrease achieved in the harmful effect must justify the cost of the measures taken.
- (4) Producers of radioactive waste shall cover all costs incurred upon the management of the radioactive waste.
- (5) The classification of radioactive waste and the specific requirements for registration, management and delivery of radioactive waste shall be established by a regulation of the Minister of the Environment.
- (6) Radioactive waste acceptance criteria shall be established by a regulation of the Minister of the Environment.

Section 59 – Delivery of radioactive waste

- (1) In cases where radioactive waste cannot be released into the environment with the aim of their diffusion, or, within a period of five years after their production, cannot be exempted from the requirements of this Act or legislation established on the basis thereof, the person who produced the radioactive waste shall deliver them to a radioactive waste management facility.
- (2) A person who produces radioactive waste shall guarantee that the packaging in which waste is delivered complies with the waste acceptance criteria established for packaging for radioactive waste.

Section 60 – Seizure of radioactive waste by state

- (1) In cases where the owner of radioactive substances or radioactive waste is unknown, or the person responsible for their production cannot be established, or in the case of illegal possession of radioactive waste, or if an emergency could be created as a result of possession of radioactive waste, the state shall seize the radioactive waste.
- (2) In the case of illegal possession of radioactive waste, or if an emergency could be created as a result of possession of radioactive waste, the owner of the radioactive waste shall cover the costs related to the seizure and management of the waste by the state.
- (3) Further management of radioactive substances and radioactive waste seized by the state shall be decided by the Minister of the Environment in each individual case based on the crisis management plan prepared by the Ministry of the Environment.

Section 61 – Import, export and transit of radioactive waste

- (1) The following are documents for the import, export or transit of radioactive waste:
 - 1) application for transport permit;
 - 2) authorisation by competent authorities;
 - 3) transport permit;
 - 4) list of materials and their type of packaging;
 - 5) notice on receipt of radioactive waste.
- (2) The formats for documents for the import, export or transit of radioactive waste are set out in the Commission Decision 93/552/Euratom of 1 October 1993 establishing the standard document for the supervision and control of shipments of radioactive waste referred to in Council Directive 92/3/Euratom (OJ L 268, 29.10.1993, p. 83).
- (3) Transport permits for radioactive waste shall be issued and transit thereof shall be authorised by the Minister of the Environment.
- (4) The owner of radioactive waste shall apply for a transport permit for the import of radioactive waste into the Republic of Estonia for the handling or conditioning thereof, and for the export of radioactive waste from the Republic of Estonia if the activity concentrations or total activity of the radioactive waste radionuclides exceeds the exemption value.
- (5) In order to obtain a transport permit, an applicant shall submit a standard format application to the Ministry of the Environment.
- (6) An application may be submitted concerning more than one shipment provided that:
 - 1) the radioactive waste for the carriage of which the application is submitted have similar physico-chemical and radioactive properties;
 - 2) the shipment is from the same possessor of radioactive waste to the same recipient, and the transport documents have been authorised and issued by the same competent authorities;
 - 3) the shipment is made through the same border checkpoints and transit countries.
- (7) The Ministry of the Environment shall send a request for authorisation to the competent authorities of the country of destination and of all transit countries.
- (8) After receipt of all necessary authorisations, the Ministry of the Environment shall issue a transport permit.
- (9) A transport permit shall be issued for one shipment and for a specified term. A multiple transport permit shall be valid for a term of up to three years.
- (10) The Ministry of the Environment shall not issue a transport permit or authorise the transit of radioactive waste if:

- 1) it involves or may result in danger to national or international security;
 - 2) the country of destination of the radioactive waste is located south of latitude 60° south;
 - 3) the country of destination is not a Member State of the European Union but it has entered in an agreement prohibiting the import or transit of radioactive waste with the European Union;
 - 4) there is reason to believe that it is not possible to manage radioactive waste safely in the country of destination;
 - 5) the import, export or transit of radioactive waste is likely to present an environmental or health hazard;
 - 6) the radioactive waste is to be brought into Estonia for final disposal.
- (11) The transport permit specified in clause (1) 3) of this section is not required in the case where the holder of a radiation practice licence is returning a sealed radiation source to the manufacturer of the source.
- (12) If it is not possible to complete the transport of radioactive waste or if the conditions under which the transport operation is carried out do not meet the conditions of the application for the transport permit or the terms set out in the transport permit, the Ministry of the Environment shall apply substitutive enforcement in the form of returning the radioactive waste to its original owner pursuant to the procedure provided for in the Substitutive Enforcement and Penalty Payment Act (RT I 2001, 50, 283; 94, 580).
- (13) Where necessary, the Radiation Protection Centre shall provide international organisations with relevant information on the import, export or transit of radioactive waste.
- (14) The specifications for processing the documents for the import, export or transit of radioactive waste based on the countries of origin and destination of the waste shall be established by a regulation of the Government of the Republic.

Section 62 – Commissioning of radioactive waste management facilities

- (1) The Ministry of the Environment shall issue a radiation practice licence for the management of radioactive waste after the Ministry has certified, based on the proposal of the Radiation Protection Centre, that the management facility is in conformity with radiation safety requirements.
- (2) The holder of a radiation practice licence shall collect and analyse data on the use of the radioactive waste management facility and shall forward such information to the Radiation Protection Centre for storage.

***Section 63 – Safety of radioactive waste management facility
after termination of operation***

After the termination of the operation of a radioactive waste management facility, the Radiation Protection Centre shall:

- 1) preserve the documents concerning the location and design of the radioactive waste management facility, and the inventory of radioactive waste for an indefinite time;
- 2) organise radiation monitoring and control the restriction of access as necessary;
- 3) organise intervention if, based on monitoring results or upon inspection, release of radioactive materials into the environment is established.

CHAPTER 8

Liability

Section 64 – Violation of terms of radiation practice licence

- (1) Violation of the requirements determined by a radiation practice licence is punishable by a fine of up to 300 fine units.
- (2) The same act, if committed by a legal person, is punishable by a fine of up to 50 000 Estonian kroons (EEK).

Section 65 – Addition of radioactive substances to products and import or export of such goods

- (1) The addition of radioactive substances in the production of foodstuffs, toys, personal ornaments and cosmetics, and the import or export of such goods are punishable by a fine of up to 100 fine units.
- (2) The same act, if committed by a legal person, is punishable by a fine of up to EEK 50 000.

***Section 66 – Conveyance of radiation sources containing radioactive substances
and conveyance of radioactive waste across state border without appropriate permit***

- (1) Conveyance of radiation sources containing radioactive substances and conveyance of radioactive waste across the state border without an appropriate permit is punishable by a fine of up to 300 fine units.
- (2) The same act, if committed by a legal person, is punishable by a fine of up to EEK 50 000.

Section 67 – Delivery of radiation sources containing radioactive substances and delivery of radioactive waste to person who does not hold radiation practice licence

- (1) Delivery of radiation sources containing radioactive substances and delivery of radioactive waste to a person who does not hold a radiation practice licence is punishable by a fine of up to 300 fine units.
- (2) The same act, if committed by a legal person, is punishable by a fine of up to EEK 50 000.

Section 68 – Supervision over radiation safety

The Environmental Inspectorate shall conduct supervision over radiation safety on the basis of the Environmental Supervision Act (RT I 2001, 56, 337; 2002, 61, 375; 99, 579; 110, 653; 2003, 88, 591).

Section 69 – Proceedings

- (1) The provisions of the General Part of the Penal Code (RT I 2001, 61, 364; 2002, 86, 504; 82, 480; 105, 612; 2003, 4, 22; 83, 557; 90, 601; 2004, 7, 40) and of the Code of Misdemeanour Procedure (RT I 2002, 50, 313; 110, 654; 2003, 26, 156; 83, 557; 88, 590) apply to the misdemeanours provided for in this Chapter.
- (2) Extra-judicial proceedings concerning the misdemeanours provided for in this Chapter shall be conducted by the Environmental Inspectorate.

CHAPTER 9

Final Provisions

Section 70 – Amendment of State Fees Act

Section 183 of the State Fees Act (RT I 1997, 80, 1344; 2001, 55, 331; 53, 310; 56, 332; 64, 367; 65, 377; 85, 512; 88, 531; 91, 543; 93, 565; 2002, 1, 1; 18, 97; 23, 131; 24, 135; 27, 151 and 153; 30, 178; 35, 214; 44, 281; 47, 297; 51, 316; 57, 358; 58, 361; 61, 375; 62, 377; 90, 519; 102, 599; 105, 610; 2003, 4, 20; 13, 68; 15, 84 and 85; 20, 118; 21, 128; 23, 146; 25, 153 and 154; 26, 156 and 160; 30, correction notice; 51, 352; 66, 449; 68, 461; 71, 471; 78, 527; 79, 530; 81, 545; 88, 589 and 591; 2004, 2, 7; 6, 31; 9, 52 and 53; 14, 91 and 92) is amended by adding subsection (2⁷) worded as follows:

“(2⁷) A state fee of 2000 kroons shall be paid for the issue or amendment of a radiation practice licence.”

Section 71 – Amendment of Emergency Preparedness Act

The Emergency Preparedness Act (RT I 2000, 95, 613; 2002, 61, 375; 63, 387; 2003, 88, 594) is amended as follows:

- 1) clause 7 (2) 8) is amended and worded as follows: “8) the Ministry of the Environment – organisation of radiation and environmental protection, and radiation and environmental monitoring.”;

- 2) subsection 26 (1) is amended and worded as follows: “(1) Undertakings whose enterprises are dangerous shall perform risk assessments and prepare emergency plans for the enterprises pursuant to the Chemicals Act (RT I 1998, 47, 697; 1999, 45, 512; 2002, 53, 336; 61, 375; 63, 387; 2003, 23, 144; 51, 352; 75, 499; 88, 591).”;
- 3) subsection (1¹) is added to Section 26 and worded as follows: “(1¹)In the case of high risk radiation practices, the holder of a radiation practice licence shall perform a risk assessment and shall prepare an emergency plan on the basis of the Radiation Act.”;
- 4) subsection 26 (2) is amended and worded as follows: “(2) On the basis of the risk assessments of rural municipalities and cities, the rural municipality and city governments shall designate the enterprises and agencies which, in addition to those specified in subsection (1) and (1¹) of this section, shall prepare emergency plans.”

Section 72 – Term of validity of radiation practice licences

- (1) The holder of a radiation practice licence issued prior to the entry into force of this Act shall submit an application for a licence that is in conformity with the requirements of this Act to the Ministry of the Environment within six months after the entry into force of this Act.
- (2) Radiation practice licences issued prior to the entry into force of this Act shall expire after six months after the entry into force of this Act, except in the cases where the holder of a radiation practice licence has submitted an application for a licence specified in subsection (1) of this section.

Section 73 – Preparation of national development plan for radiation protection

The national development plan for radiation protection shall be prepared within two years after entry into force of this Act.

Section 74 – Repeal of existing Radiation Act

The Radiation Act (RT I 1997, 37/38, 569; 1998, 97, 1520; 1999, 88, 804; 2000, 102, 670; 2001, 56, 337; 2002, 9, 46; 61, 375; 63, 387) is repealed.

Section 75 – Entry into force of Act

This Act enters into force on 1 May 2004.

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