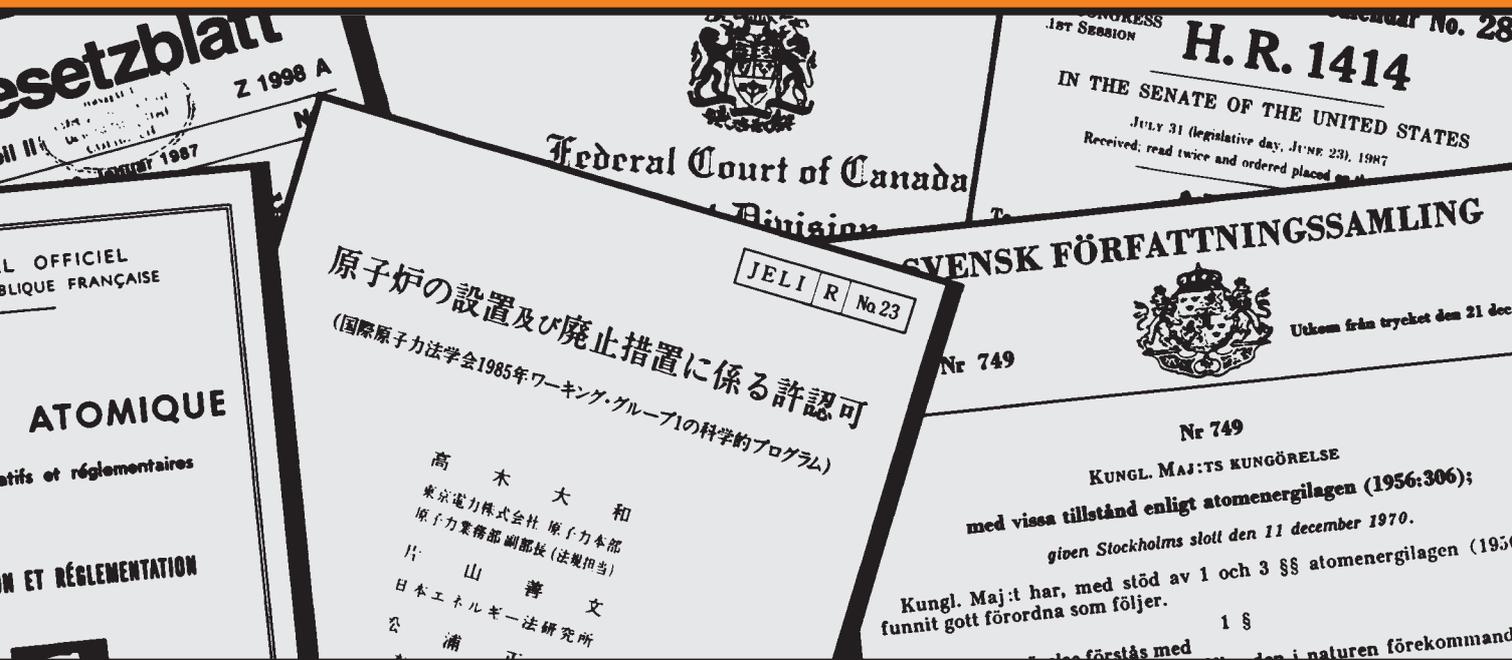




NUCLEAR LAW



BULLETIN 61/JUNE 1998

NUCLEAR ENERGY AGENCY



NUCLEAR LAW BULLETIN No. 61

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- *encouraging harmonization of national regulatory policies and practices, with particular reference to the safety of nuclear installations, protection of man against ionising radiation and preservation of the environment, radioactive waste management, and nuclear third party liability and insurance;*
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- *developing exchanges of scientific and technical information particularly through participation in common services;*
- *setting up international research and development programmes and joint undertakings.*

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The Protocol amending the 1963 Vienna Convention

by Vanda Lamm*

The Chernobyl disaster of 1986 caused the Vienna Convention on Civil Liability for Nuclear Damage (hereafter called the Vienna Convention), adopted in 1963 under the aegis of the International Atomic Energy Agency, to awaken from its sleep of Briar Rose. For over two decades there had been little, if any, public concern over this instrument apart from that shown by a select segment of nuclear liability professionals.¹ The reasons were several.

The Vienna Convention was adopted three years after the 1960 Paris Convention on Third-Party Liability in the Field of Nuclear Energy, (hereinafter called the Paris Convention) and it governs civil liability for nuclear damage on the same conceptual basis as does the Paris Convention.² The main difference between the two Conventions, other than those arising from their respective provisions, is that the Paris Convention was signed by a group of States, all members of the Organization for European Economic Co-operation, whereas the Vienna Convention was intended to regulate nuclear liability issues on a world-wide scale. In this connection, the greatest problem was no doubt presented by the fact that by the time the Vienna Convention was concluded, the Paris Convention already existed among the States most affected by this complex of issues, notably the highly industrialized Western European States.³

From the mid 1960s onwards, the two Conventions followed rather different paths. During the 1960s and the 1970s, the Paris Convention kept “developing”, growing into a living system, with more and more States acceding to it and with the limit of liability being raised on several occasions. In 1963, the Brussels Convention Supplementary to the Paris Convention was adopted to provide

* Vanda Lamm is Professor, Institute for Legal and Administrative Studies, Hungarian Academy of Sciences. The ideas expressed in this article are under the sole responsibility of the author.

1. The revision of international nuclear liability conventions was on the agenda of the 1984 Symposium of Munich and the Nuclear InterJura'85. Cf. Nuclear Third Party Liability and Insurance – Status and Prospects, Proceedings of the Symposium of Munich, 1984; International Harmonization in the Field of Nuclear Energy (Norbert Pelzer, ed.) Nomos Verlagsgesellschaft, Baden-Baden, 1986.
2. On the basic principles of nuclear civil liability conventions see, J.P.H. Trevor: Principles of civil liability for nuclear damage. in: Nuclear Law for a Developing World, IAEA, Vienna, 1968, pp.109-115, and Pierre Strohl: *La Convention de 1971 relative à la responsabilité civile dans le domaine du transport maritime de matières nucléaires*, AFDI, 1972, pp. 755-760.
3. Both the Paris Convention and its Additional Protocol signed in Paris on 28 January 1964 entered into force on 1 April 1968.

additional compensation from public funds to supplement that payable under the Paris Convention.⁴ By contrast, the Vienna Convention did not even come into force for nearly 15 years, although it required ratification by as few as 5 States.⁵ When, after so many years, the Vienna Convention finally did come into force, certain of its provisions already called for revision. Its dormant state is amply evidenced by the fact that only 11 States were parties to the Convention by the end of the 1980s.⁶

However, the Chernobyl disaster had clearly shown that a nuclear accident could cause enormous damage not only in the Installation State, but also thousands of kilometres away; and after that accident it became obvious that the dormant Vienna Convention might be an appropriate tool for settling the claims of foreign victims in similar cases. Everyone soon came to realize the absolute necessity of adjusting the provisions of the Vienna Convention to respond to technological developments over the past 25 years. It is known that after the Chernobyl accident, the then Soviet Union refused to pay compensation to any foreign victims; some people believed that if the Soviet Union had been a party to the Vienna Convention, foreign victims would have had at least a chance to receive some compensation. It is a separate issue, of course, whether the amount of compensation eventually payable under the Vienna Convention would have been enough to satisfy anything but a minor, almost ridiculous fraction, of the claims by comparison with the extent of the accident.

Following the signature in 1988 of the Joint Protocol establishing a bridge between the Vienna and the Paris Conventions⁷, several fora within the International Atomic Energy Agency addressed the question of revising the Vienna Convention. The necessity of doing so was stated in Resolution GC (XXXII)/RES/491 of the Agency's General Conference on 23 September 1988, which emphasized that the existing civil liability regime "does not cover all liability issues that might arise in the event of a nuclear accident." The next year, the IAEA Board of Governors, by Decision adopted 23 February 1989, established an open-ended Working Group "to study all aspects of liability for nuclear damage" and to "consider ways and means of complementing and strengthening the existing civil liability regime and consider also the question of international liability."⁸ In another Decision of 21 February 1990, the Board of Governors dissolved the above mentioned Working Group and at the same time established a new, open-ended Standing Committee on Liability for Nuclear Damage with a wide mandate to "consider international liability for nuclear damage, including international civil liability, international State liability, and the relationship between international civil and State liability."⁹

4. On the Brussels Supplementary Convention see, M. Lagorce: *The Brussels Supplementary Convention and its Joint Intergovernmental Security Fund in: Nuclear Law for a Developing World. op.cit., pp. 143-148.*

5. The Vienna Convention entered into force on 12 November 1977.

6. On the signatures, ratifications, etc. of the Vienna Convention see Document NL/DC/INF.4. prepared by the IAEA to the Diplomatic Conference of 8-12 September 1997.

7. On the Joint Protocol see, O. von Busekist: *A bridge between two conventions on civil liability for nuclear damage: The Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention in: Nuclear Law Bulletin, No.43, June 1989.*

8. IAEA document GOV/OR.707. p.13.

9. This Decision of the Board was based on the second report of the Working Group which recommended that the Board revise the mandate of the Standing Committee and include the questions of international liability and the relationship between international and State liability. See IAEA NL/2/3.

After more than 8 years of negotiations within the framework of the Standing Committee¹⁰, which covered 17 sessions and several intersessional working group meetings, a Diplomatic Conference to revise the 1963 Vienna Convention took place at Vienna from 8-12 September 1997. The Delegates adopted two treaties, the Protocol to Amend the Vienna Convention on Civil Liability for Nuclear Damage (hereafter called the Protocol)¹¹ and the Convention on Supplementary Compensation for Nuclear Damage.

In the first stage of the revision process, the only goal was to amend certain provisions of the Vienna Convention. Later, in what might be called the second stage, the question was seriously raised of establishing a new supplementary convention by which additional funds were to be provided by the international community of States. Most experts felt that the nuclear liability regime of the Vienna Convention, as amended, would really serve the interests of potential victims of nuclear incidents only if it were supported by an international supplementary fund providing additional compensation for nuclear damage to that provided by the operator. Thus, the Standing Committee started to consider the establishment, under the Vienna Convention, of a mechanism for mobilizing additional funds for compensation of nuclear damage. During the negotiations it was deemed necessary to establish a separate treaty for such a supplementary fund, and indeed, efforts were undertaken to draw up such an instrument concurrently with the revision of the Vienna Convention.

The outcome of the revision process of the Vienna Convention is a Protocol containing 24 articles, some being completely new provisions, with others revising existing articles. Before describing and analysing the outcome of this process, the following preliminary remarks should be made:

- a) The provisions of the Protocol can be divided into three main groups. Some of the new and revised articles deal with matters of substance, and, we may add, with matters of great importance indeed. Other amendments contain rules of a basically procedural nature, which facilitate victims in enforcing their claims for compensation. The third category of amendments raises no new issues, either substantive or procedural, and essentially serves to refine existing provisions of the Convention or to bring other provisions of the Convention into line with the newly incorporated substantive and procedural changes.
- b) As regards the articles dealing with matters of substance, it should be stressed that the revision does not affect the basic concept of the Vienna Convention, although attempts in that direction were made during the negotiations in the Standing Committee, particularly in the early stage. I refer to efforts to have the basic civil liability regime of the Vienna Convention replaced by a State liability regime.
- c) There is no doubt that the revision clarified numerous provisions of the Vienna Convention. An effective liability regime can only work if a considerable number of nuclear liability issues are uniformly regulated by the national legislation of the Contracting Parties. Nevertheless, the revised Vienna Convention continues to leave

10. In the work of the Standing Committee, experts from more than 55 States took part, and the representatives of several international organizations were present as observers. The high quality work of the IAEA Secretariat and the NEA expertise on liability issues largely contributed to the success of the negotiations.

11. See Consolidated Text of the Vienna Convention on Civil Liability for Nuclear Damage of 21 May 1968 as Amended by the Protocol of 12 September 1997 established by the IAEA Secretariat. GC(41)INF/13/Add.1.

certain matters to be determined by national law and, despite significant efforts at unification of laws as reflected in the Convention, many questions relating to compensation for damage remain subject to the domestic law of the Installation State or the law of the competent court.

I. Civil liability or State liability?

The nuclear liability conventions currently in force govern liability in respect of third party damage on the basis of civil law, conceptually based on the analogy of liability for activities involving increased danger, under the national laws of States.

In the first stage of the negotiations in the Standing Committee, the debate about the need to devise a regime of State liability to replace the civil liability regime of the Convention was crucial.

The experts raised a number of theoretical and practical arguments both for and against the introduction of a State liability regime. An in-depth analysis of these arguments would go far beyond the scope of this paper, but generally those arguing in favour of State liability referred to the Chernobyl disaster, claiming that only the financial resources available to the State would be sufficient to compensate victims of an accident of such a scale. Some authors in the pertinent literature, and several experts at the Vienna negotiations referred to State liability in respect of space activities as an example similar to that of liability for nuclear damage, and noted that the related international treaties provide for State liability.¹² The final outcome of the discussions was a decision to retain the conceptual basis of the Vienna Convention and uphold its civil liability regime. However, and this is one of the major improvements to the Vienna Convention, the Protocol expressly provides for compensation from public funds (see section VI. below).

II. Geographical scope of the Vienna Convention

The 1963 Vienna Convention is silent on its geographical scope, and pursuant to the general rules of international law which are clearly laid down in Article 29 of the 1969 Vienna Convention on the Law of Treaties,¹³ the Convention applies to damage occurring in the territory of a State party to the instrument, on board aircraft registered in that State and on ships flying its flag.

The Protocol adds a new article on the Convention's geographical scope (Article IA, of the revised Vienna Convention) which, on the one hand, determines the rules relative to the Convention's geographical scope and, on the other, extends its geographical application. Article 3 of the Protocol states as a general rule that “this Convention shall apply to nuclear damage wherever suffered” (para. 1). This essentially means that the Convention may, at least in principle, be applied to nuclear damage suffered anywhere in the world, even to damage occurring in the territory or territorial waters (internal waters, territorial sea, exclusive economic zone, continental shelf) of a non-Contracting State. Nevertheless, the Protocol allows certain exceptions from the said general rule, permitting the Installation State to exclude, by legislation and under specific circumstances, the application of the

12. Cf. Louise de La Fayette: Towards a New regime of State Responsibility for Nuclear Activities, in: *Nuclear Law Bulletin*, No.50 and Jan Lopuski: Liability for Nuclear Damage, National Atomic Energy Agency, Warsaw, 1993.

13. Article 29 of the 1969 Vienna Convention on the Law of Treaties that “Unless a different intention appears from the treaty or is otherwise established, a treaty is binding upon each party in respect of its entire territory.”

Convention to the territory of a non-Contracting State or in respect of damage occurring in a maritime zone established by such State in accordance with the international law of the sea (para. 2). Any exclusion may apply only to a non-Contracting State which has a nuclear installation on its territory or in any maritime zone and does not afford equivalent reciprocal benefits (para. 3). The Protocol here refers to the principle of reciprocity¹⁴, and as a consequence, the application of the Vienna Convention **may in no way be excluded in respect of non-nuclear States**, – in case of a nuclear incident, a non-Contracting non-nuclear State or its nationals or legal persons under its jurisdiction are entitled to compensation on an equal footing with nationals of Contracting States.

It should be noted that the application of the aforesaid provision on exclusion in respect of a nuclear State on the basis of lack of reciprocity may, in practice, give rise to problems. The existence of reciprocity can always be established on the basis of some practice between States, and, given the fortunate rarity of nuclear incidents, cases in which a nuclear State is likely to apply this provision in respect of another nuclear State are, in fact, infrequent. In theory, such a situation might occur when damage is suffered in a successor State to the former Soviet Union, and a State party to the revised Vienna Convention tries to evade compensating damage suffered in the territory of the former Soviet Union by invoking the former Soviet Union's refusal to pay compensation for damage suffered by foreign victims after the Chernobyl disaster.

III. Concept of nuclear damage

One of most significant changes effected by the Protocol to amend the Vienna Convention is, perhaps, to the concept of nuclear damage.

Well before the Chernobyl disaster, professionals in the field had been fully aware that the definition of nuclear damage under the 1963 Vienna Convention was too narrow or incomplete, notably because the Convention did not refer to certain forms of damage (e.g. environmental damage or costs of preventive measures). The 1963 Vienna Convention makes compensation for any nuclear damage other than loss of life, personal injury, and loss of or damage to property subject exclusively to the law of the court having jurisdiction. In other words, victims could not expect compensation for any other head of damage except when such compensation was allowed by the law of the State of the competent court.

During the revision of the Vienna Convention, it became completely clear that the definition of nuclear damage had to be addressed carefully, since domestic laws show significant differences in the interpretation of, for example, loss of profit or economic loss. If, on the other hand, there were such significant differences between the domestic laws of States, such differences could, in practice, operate to produce situations in which compensation to victims of nuclear damage would tend to depend, in no small measure, on the location of the occurrence of damage or on the interpretation of nuclear damage by the law of the competent court. This, in turn, would but ultimately increase the not insignificant differences already existing between victims of different nuclear incidents.

The definition of nuclear damage is a key provision of the Vienna Convention. The entire nuclear liability regime rests on limited liability amounts, that is, on the principle that regardless of the number of victims and the extent of damage, the amount of compensation payable by the operator

14. On the principle of reciprocity see, Emmanuel Decaux: *La réciprocité en droit international*. Librairie Générale de Droit et de Jurisprudence, Paris, 1980, pp. 129-159.

or from public funds is a specified sum, after all. (Indeed, such is the case even in States under whose national law the operator's liability is unlimited, as is otherwise suggested by Article 9.2 of the Protocol, discussed at a later stage.) Therefore, the inclusion of certain forms of environmental damage or indirect damage in the concept of nuclear damage is bound to enlarge the number of victims, direct or indirect, of a given nuclear incident. In the event of a large nuclear incident causing enormous damage, this in turn will necessarily put individual victims in a more unfavourable position, since the larger the number of the victims, the less is their chance of receiving full compensation.

Almost from the beginning of the discussions to revise the Vienna Convention, the Standing Committee agreed on the need to broaden the concept of nuclear damage, and to include certain forms of environmental damage, the costs of preventive measures and consequential losses in the definition of that term.¹⁵

The revision produced a rather detailed definition of nuclear damage in Article 2.2. of the Protocol.¹⁶ It gives an almost exhaustive listing of the possible types of damage¹⁷ and, what is particularly important, it renders subject to the law of the competent court only the **extent** of damage, other than loss of life, personal injury, and loss of or damage to property. By so doing, the Protocol has considerably restricted, but not fully eliminated, the significance of the law of the competent court; for, if the legislation of the competent court fails to recognize certain economic loss, victims of a nuclear incident can hardly expect compensation for such damage in a given case.

In addition to loss of life, personal injury, and loss of or damage to property, all of which are already covered by the 1963 Vienna Convention, the Protocol clearly includes in the definition of nuclear damage such other loss as is incurred as a result of a significant impairment of the environment, and the costs of certain preventive measures or measures taken to minimize damage under specific circumstances. Accordingly, “nuclear damage” also means:

- a) further “economic loss” incurred above loss of life, personal injury, loss of or damage to property, provided that the loss is incurred by a victim who can claim in respect of such loss or damage;
- b) the cost of measures of reinstatement of significantly impaired environment, if such measures are actually taken or to be taken, and insofar as not included in the category of “economic loss”;
- c) loss of income, also related to the environment, deriving from an economic interest in any use or enjoyment of the significantly impaired environment, insofar as not covered by the preceding paragraph (such use of the environment should be taken to mean use for business purposes in the first place);

15. Cf.H. Rustand: Updating the concept of damage, particularly as regards environmental damage and preventive measures, in the context of the ongoing negotiations on the revision of the Vienna Convention, in: *Nuclear Accidents, Liabilities and Guarantees*. op.cit., pp. 218-238.

16. Article I.(k) of the revised Vienna Convention.

17. This notion of “damage” is much more detailed than the notions of damage included in recent conventions on liability for environmental damage. Cf. Article I.(6),(7) of the 1992 London Convention on Civil Liability for Oil Pollution Damage, and Article 2 (7),(8),(9) of 1993 Lugano Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment.

- d) cost of preventive measures and consequential losses caused by such measures. It should be noted on this point that, owing to the widened scope of the definition of 'nuclear incident' introduced in Article I.1.(I) of the Vienna Convention¹⁸, nuclear damage may also be deemed to be caused by the costs of preventive measures taken before the occurrence of an incident, if taken to remove a grave and imminent threat of causing damage, and according to an additional sentence added at the Diplomatic Conference, provided they were found under the law of the competent court to be appropriate and proportionate having regard to all the circumstances;
- e) any other economic loss, other than any caused by the impairment of the environment, if permitted by the general civil liability law of the competent court. This element of damage is likewise mentioned by the Protocol in a general clause.

The redefinition by the Protocol of nuclear damage is clearly reflective of an intention to ensure as full compensation as possible to victims of nuclear damage. As it virtually covers the broadest range of damage, the Protocol has essentially taken civil liability for nuclear damage in the direction of the fullest measure of compensation in an attempt to break with the implied principle that victims of a nuclear incident cannot expect to receive full compensation.

Furthermore, Article 2.4 of the Protocol gives very precise definitions of “measures of reinstatement”, “preventive measures” and “reasonable measures”, which must (i) be reasonable; (ii) be approved by the competent authorities of the State where the measures were taken (the national law of the State where the damage is suffered must determine who is entitled to take such measures); and (iii) aim to reinstate or restore damaged or destroyed components of the environment or to introduce, where reasonable, the equivalents of these components into the environment. “Preventive measures” are likewise subject to previous approval by the competent authorities of the State. As for “reasonable measures”, a further criterion for their constituting nuclear damage is that they must be found under the law of the competent court to be appropriate and proportionate having regard to all the circumstances.¹⁹

18. Article 2.3 of the Protocol provides that “Nuclear incident means any occurrence or series of occurrences having the same origin which causes nuclear damage or, but only with respect to preventive measures, creates a grave and imminent threat of causing such damage.”

19. Article 2.4 of the Protocol adds among others these new paragraphs to Article I of the Vienna Convention:
 “m) “Measures of reinstatement” means any reasonable measures which have been approved by the competent authorities of the State where the measures were taken, and which aim to reinstate or restore damaged or destroyed components of the environment, or to introduce, where reasonable, the equivalent of these components into the environment. The law of the State where the damage is suffered shall determine who is entitled to take such measures.

(n) “Preventive measures” means any reasonable measures taken by any person after a nuclear incident has occurred to prevent or minimize damage referred to in sub-paragraph (k)(i) to (v) or (vii), subject to any approval of the competent authorities required by the law of the State where measures were taken.

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

(i) the nature and extent of the damage incurred or, in the case of preventive measures, the nature and extent of the risk of such damage;

(ii) the extent to which, at the time they are taken, such measures are likely to be effective; and

(iii) relevant scientific and technical expertise.”

It can be said, therefore, that the Protocol has considerably broadened the definition of nuclear damage and has definitely taken an important step towards unification of the legislation of States Parties. There is no doubt that the Protocol would have created a more clear-cut situation by giving a uniform, all-embracing definition of nuclear damage to all States Parties to the amended Vienna Convention. However, considering the differences existing between the national laws of States in this field, one must appreciate that the Protocol has kept touch with reality in upholding the principle that the extent of damage should ultimately be determined by the law of the competent court. At any rate, this rather precise enumeration of the types of damage can be seen as a significant improvement in the Vienna Convention since, in effect, it clearly calls the attention of both legislators and practising lawyers to the need to take into account the various types of nuclear damage listed in the Protocol when they occur. Essentially, it constitutes a model or pattern to be followed by States not having legislation containing similar provisions.

IV. Nuclear installations covered by the Convention

The 1963 Vienna Convention is silent on the question of whether it covers all nuclear installations or only those used for certain peaceful purposes. It is only possible on the basis of an interpretation a contrario to state that the Convention is not applicable to nuclear damage resulting from military installations.²⁰ The Standing Committee wanted to clarify the situation, and, at its first meeting, acting upon proposals from several delegates, the Committee tried to reach consensus upon an amendment that would have the Vienna Convention cover military installations as well. This proved to be a rather delicate issue. It also brought to light several political and legal problems concerning the extension of the application of the Convention to nuclear installations used for non-peaceful purposes, especially the problem of damage arising in connection with those nuclear installations which are not under the control of the territorial State. For a while, a compromise solution was sought which would have allowed individual States to declare that military installations on their territory are not covered, under special circumstances. Until the 16th Session of the Standing Committee, the draft Protocol contained a provision stating that the “Convention shall apply to all nuclear installations, whether used for peaceful purposes or not.”²¹ Later, in the final stages of the negotiations, however, the Standing Committee rejected the extension of the application of the Vienna Convention to nuclear installations used for non-peaceful purposes. The Protocol finally succeeded in clarifying the situation by adding a new Article IB, expressly stating that “This Convention shall not apply to nuclear installations used for non-peaceful purposes.”

V. Exoneration

Article 6.1 of the Protocol amends the provisions of the Vienna Convention on exoneration from liability by formulating stricter criteria. On the one hand, the Protocol repeals “a grave natural disaster of an exceptional character” as a ground for exoneration, which, even under Article IV.3. of the 1963 Vienna Convention, had operated as such only insofar as the law of the Installation State contained no contrary provisions in this respect. It means that, if a grave natural disaster was not a ground for exoneration under the domestic law of the Installation State, it could not serve as one

20. According to the Preamble of Vienna Convention “The Contracting Parties, having recognized the desirability of establishing some minimum standards to provide financial protection against resulting from certain peaceful uses of nuclear energy.”

21. Cf. SCNL/16/INF.3.

under the Vienna Convention either. On the other hand, the criteria were tightened for other events (act of armed conflict, hostilities, civil war or insurrection) so that such events do not exonerate the operator from liability except upon proof that the nuclear damage is directly due to such events. The 1963 Vienna Convention does not require such proof by the operator.

Other amendments of the same Article IV increase the liability amount for damage to the means of transport upon which the nuclear material involved was at the time of the nuclear incident, and clearly exclude damages to other nuclear installations operating on the same site, including those under construction, and any property on the same site used in connection with any such installation.²²

VI. Liability amount

Perhaps the most important amendment of the Vienna Convention effected by the Protocol is the increase in liability amounts. This can be explained by the fact that one of the main motives for revising the Convention was precisely the consideration that the US\$ 5 million dollar limit, as the lowest amount at which the liability of the operator may be established, had become unrealistic in view of the extent of damage that might result from an eventual nuclear incident.

It should be remembered that of all the amendments mentioned above, the extension of the geographical scope of the Convention and of the concept of nuclear damage are particularly significant, as they will result in a larger number of victims of nuclear incidents, and, as a consequence, there will be more victims to share in the liability available.

Increasing the amount of liability was discussed at length in the Standing Committee. According to revised Article V of the Vienna Convention²³ the legislation of the Installation State may limit the operator's liability for any one nuclear incident to not less than 300 million SDRs. (This also means that, in future, the limit of liability for nuclear damage will be fixed, not in US dollars, but in Special Drawing Rights (SDR), the unit of account defined by the International Monetary Fund).²⁴ The operator's liability amount may be lower than this, but in no case may it be less than 150 million SDRs. Naturally, the upper limit of the operator's liability may be a higher amount. If, under the national law of the Installation State, the upper limit of the operator's liability is less than 300 million SDRs, the difference between that upper limit and 300 million SDRs must be secured from public funds.

22. The revised Article IV.5 and 6 reads as follow:

“5. The operator shall not be liable under this Convention for nuclear damage

- a) to the nuclear installation itself and any other nuclear installation, including a nuclear installation under construction, on the site where that installation is located; and
- b) to any property on that same site which is used or to be used in connection with any such installation.

6. Compensation for damage caused to the means of transport upon which the nuclear material involved was at the time of the nuclear incident shall not have the effect of reducing the liability of the operator in respect of other damage to an amount less than either 150 million SDRs, or any higher amount established by the legislation of a Contracting Party, or an amount established pursuant to sub-paragraph (c) of paragraph 1 of Article V.”

23. Article 7.2 of the Protocol.

24. Cf. Article I.1.(p) of the revised Vienna Convention.

The provisions for a phasing-in mechanism were included in Article V.1(c) of the revised Vienna Convention on the motion of some States who are coping with significant economic difficulties. This mechanism allows for a transitional period of 15 years from the date of entry into force of the Protocol during which the minimum limit of liability of an operator for nuclear damage occurring during that period may be set at 100 million SDRs. The provision makes it possible for the Installation State to limit the operator's liability to an amount less than 100 million SDRs within the phasing-in period, provided that the difference between that lesser amount and 100 million SDRs is secured from public funds.

There is no doubt that the inclusion of the phasing-in provisions is a solution less favourable to victims of an eventual nuclear incident. One should not overlook the fact, however, that the 300 million SDRs liability amount established by the Protocol is not only too high for some States, but that even the phasing-in amount of liability is much higher, over 40 times higher than the amount required under the 1963 Vienna Convention. Many believe that the phasing-in mechanism does a great deal to promote accession to the Protocol to Amend the Vienna Convention.

VII. Financial security

At the time the Vienna Convention was adopted, one hardly anticipated that the national law of any State would provide for the operator's unlimited liability. Thus, little attention was paid to the question of reconciling unlimited liability under national law with the Convention's provisions fixing the amount of financial security. This problem was, however, settled by Article 9.1 of the Protocol, which adds to Article VII of the Vienna Convention a sentence providing that where the liability of the operator is unlimited, the Installation State shall ensure that the operator's financial security shall not be less than 300 millions SDRs.

VIII. Amendment of liability amount

Article VD of the Vienna Convention addresses the adjustment of liability amounts in view of inflation and other factors via a relatively simplified procedure. This "simplified" procedure is, in fact, a rather complicated multi-tier mechanism. Its main advantage lies in allowing the liability amount to be raised without the need for the traditional time-consuming procedure generally followed for amendment of treaties.

The procedure governed by Article 7.2 of the Protocol is as follows: a meeting of the Contracting Parties shall be convened by the Director-General of IAEA on the proposal of one-third of the States Party to the revised Vienna Convention to amend the limits of liability; amendments shall be adopted by a two-thirds majority, provided that at least one-half of the Contracting Parties are present and voting; any amendment adopted shall be notified by the Director-General of IAEA to all Contracting Parties and shall be considered accepted at the end of a period of 18 months after it has been notified, provided that at least one-third of the Contracting Parties have communicated to the Director-General that they accept the amendment; an amendment accepted under this procedure shall enter into force 12 months after its acceptance for those Contracting Parties which have accepted it.

This simplified procedure undoubtedly makes it possible for the amounts of liability to be amended, but it should be stressed that the increased amount applies only to those States which have expressly accepted it and, even in that case, 12 months after acceptance. The period of 12 months may, *inter alia*, enable a State accepting the amended liability amount to prepare for fulfilment of its

resultant obligations by amending its national laws and regulations accordingly, enabling operators to make contracts of insurance for higher amounts, etc. Nevertheless the question arises as to whether the said 12 month period is really sufficient for a State to prepare for fulfilment of its obligations resulting from the acceptance of a considerably higher amount of liability.

Of course, States may happen to disagree with an amended liability amount. This possibility is also contemplated by the Protocol by providing that if, within a period of 18 months from the date of notification by the Director-General of IAEA, an amendment has not been accepted, the amendment shall be considered rejected. According to Article VD.6, a State which becomes Party to the Vienna Convention after the entry into force of an amendment adopted under the simplified procedure shall be considered bound by the liability amount so amended only if it has failed to express a different intention. This provision can be viewed as helping to guarantee any increased amount of liability.

IX. Time limit for submission of claims

The time limit for submission of claims for nuclear damage was similarly affected by the revision of the Vienna Convention, with Articles 8.1, 8.2 and 8.3 of the Protocol differentiating between various types of damage and repealing the rules on special prescription periods for incidents arising from lost, stolen, jettisoned or abandoned nuclear materials. The Vienna Convention originally established a prescription period of 10 years for nuclear damage, specifying a period of 20 years only for nuclear damage caused by lost, stolen, jettisoned or abandoned nuclear materials. The Protocol recognizes that personal injury caused by radioactive contamination might not become manifest for some considerable time after exposure thereto, and accordingly, it establishes a longer period, 30 years from the date of the nuclear incident for actions for compensation for loss of life and personal injury, while retaining the 10-year prescription period for all other types of damage, and repealing the special 20 year prescription period. Thus, in future it will be irrelevant whether or not the nuclear material causing a nuclear incident was under the operator's control at the time of the incident.

It should be noted that the 10-year prescription period is much longer than that established by the national laws of numerous States for damage resulting from certain ultra hazardous activities, allowing for the fact that damage caused by radioactive contamination to flora, fauna, livestock, etc. may become evident only many years after exposure. The revised Article VI of the Vienna Convention appears to be sufficiently flexible to address problems of such a nature and leaves it up to the legislation of the competent court to regulate related matters.

The discovery rule or the so-called subjective prescription period was likewise modified. Whereas under Article VI. 3 of the 1963 Vienna Convention “the law of the competent court may establish a period of extinction or prescription not less than 3 years from the date on which the person suffering damage had knowledge of the damage and the operator liable”, the revised Article provides that an action for compensation **shall be brought within 3 years** from the date on which the person suffering damage had knowledge or ought to have had knowledge of the damage and the operator liable. No revision was made to the requirement that the subjective prescription period of 3 years may not exceed the prescribed 10 and 30 year periods or such or a longer period of extinction or prescription as is established by the national law of the Installation State.

The extension of the prescription or extinction period inevitably gives rise to certain practical problems, notably the question of financial coverage for claims for compensation for loss of

life or personal injury decades after the occurrence of a nuclear incident. Since, according to the national legislation of most States, liability for nuclear damage is a specific amount, this may, in practice, convey the suggestion that a certain portion of the liability amount would be available to compensate claims of loss of life or personal injury lodged by victims decades after an incident. Article 8.1(c) of the Protocol was intended to eliminate similar suggestions by providing that actions for compensation which, pursuant to the extended period of prescription or extinction noted above, are brought after a period of 10 years from the date of the nuclear incident, shall in no case affect the rights to compensation of any person who has brought an action against the operator before the expiry of that period.

Any extension of the prescription or extinction period, either by virtue of the Protocol or the law of the Installation State, makes sense only if the operator's liability is covered, by insurance or other financial security, including State guarantee, for such longer period. It is for this reason that Article 8.1 (b), of the Protocol provides the following: "If, however, under the law of the Installation State, the liability of the operator is covered by insurance or other financial security including State funds for a longer period, the law of the competent court may provide that rights to compensation against the operator shall only be extinguished after such a longer period which shall not exceed the period for which his liability is so covered under the law of the Installation State."

It is clear that the Protocol definitely impacts upon the role of nuclear liability insurers, since, the revised Vienna Convention has both considerably increased the minimum liability amount to be fixed for operators, and provided for extended prescription periods.²⁵ As a discussion of this question would go far beyond the scope of this paper, I would rather confine myself to emphasizing the need to rely upon the solidarity of States and the international community, it being clear that regardless of whether they are covered by legislative provisions, victims should receive compensation from public funds where the operator's liability is not covered by insurance due to the passage of time.

X. Non-discrimination between victims

Article XIII of the Vienna Convention, prohibiting any discrimination between victims suffering nuclear damage, was amended by Article 15 of the Protocol²⁶, the result being that in certain extreme cases, rather rare in practice, some foreign victims may be excluded from the compensation provided by the Convention. Derogation from the non-discrimination principle is allowed by the Protocol only within very narrow limits. Accordingly, discrimination may only be practised (a) in respect of amounts in excess of the operator's liability, namely, it may affect compensation from public funds only; and (b) in respect of nuclear damage suffered in the territory or any maritime zone of a State which has a nuclear installation in such territory, to the extent that it does not afford reciprocal benefits to the Installation State. This latter restriction makes it clear that such

25. On this questions see, G.C. Warren: Vienna Convention revision: a review of the exercise and insurance implications in the provisions under discussion. in: *Nuclear Law Bulletin*, No.55, June 1995.

26. Article XIII.2. of the revised Vienna Convention (Article 15 of the Protocol) reads as follow:

"Notwithstanding paragraph 1 of this Article, insofar as compensation for nuclear damage is in excess of 150 million SDR's, the legislation of the Installation State may derogate from the provisions of this Convention with respect to nuclear damage suffered in the territory, or in any maritime zone established in accordance with the international law of the sea, of another State which at the time of the incident, has a nuclear installation in such territory, to the extent that it does not afford reciprocal benefits of an equivalent amount."

discrimination is not allowed in respect of victims of non-nuclear States; for that matter, the underlying motive for this article is similar to that for the article on the geographical scope of the Convention.

In point of fact, the new Article XIII. 2 of the Convention is understandable, for it reflects the view that compensation from public funds should not be paid to victims whose State ensures no compensation under similar circumstances. Still, an approach that results in innocent victims of nuclear damage not receiving compensation because their State once failed to comply with its obligations under similar circumstances raises the question of how to reconcile that approach with improving the situation of victims and with humanitarian considerations. This, however, is a separate matter which goes beyond the scope of the present paper.

XI. Priorities given to certain victims

During the revision of the Vienna Convention the was most commonly held view was that victims claiming compensation for loss of life or personal injury should be brought into a more favourable position and priority should be given to those claims. This view is reflected not only in the aforementioned articles which extend the period of prescription or extinction to 30 years, but also in the provision amending Article VIII of the Vienna Convention on the nature, form and extent of compensation.

Article 10 of the Protocol states in part that “...priority in the distribution of the compensation shall be given to claims in respect of loss of life or personal injury.” This provision accords priority only to those claims for compensation for loss of life and personal injury which are submitted within 10 years from the date of the nuclear incident; that is to say, priority is inapplicable to claims brought after the 10 year period. Moreover, priority applies to cases where the damage to be compensated exceeds or is likely to exceed the maximum amount of liability made available pursuant to Article V.1. It may be noted that the extension of the priority rule to the whole period of prescription or extinction would entail the risk of attempts being made to withhold a portion of the compensation amount, on the ground that personal injuries would become evident at a later period of time. Obviously this would not serve the interests of victims who bring actions for compensation within 10 years from the date of a nuclear incident, for then they could only expect a reduced amount of compensation. Thus, in the interest of all victims, it appears much more equitable to give priority to claims in respect of personal injury or loss of life, but only for a certain specified period.

In reality, it will be naturally rather difficult to specify the manner in which to prioritize claims for compensation in respect of a certain group of victims. Precisely for this reason, it appeared useful to preserve the relevant provision of the Vienna Convention which states that, “Subject to the provisions of this Convention, the nature, form and extent of compensation, as well as the equitable distribution thereof, shall be governed by the law of the competent court” (Article VIII.1). Thus, priority for claims for compensation in respect of loss of life or personal injury is a matter for the law of the competent court to decide.

XII. Jurisdictional provisions

The revision of the Vienna Convention witnessed a rather sharp debate on the question of jurisdiction over claims for nuclear damage which continued right up to the adoption of the Protocol at the Diplomatic Conference. Interestingly, the debate addressed not so much the question of

jurisdiction in general as one instance thereof, notably the occurrence of nuclear incidents in an exclusive economic zone of a Contracting Party. The debate focused on problems of the law of the sea associated with the fact that issues relating to exclusive economic zones (EEZ) were not precisely regulated by the 1982 Convention on the Law of the Sea. That Convention gives coastal States jurisdiction with regard to the preservation of the marine environment in their EEZ. However, to what degree a State would be able to exercise this jurisdiction is still a matter of controversy.²⁷ States favouring inclusion in the Protocol of jurisdictional provisions on exclusive economic zones advanced the argument that, according to Article 56. 1(b)(ii) of the 1982 UN Convention on the Law of the Sea, coastal States have jurisdiction with regard to the preservation of the marine environment, and that if nuclear damage occurred in such a zone, damage would be suffered chiefly by the natural resources for which they bear responsibility under maritime law. This argument is otherwise supported by the fact that there are frequently cases of carriage of nuclear materials in exclusive economic zones.

The provisions on jurisdiction were finalized only at the Diplomatic Conference and the outcome is a rather complicated paragraph, breaking with the general rule that is characteristic of nuclear liability conventions, that jurisdiction over actions for compensation lies with the Installation State. Under Article XI.1bis. of the revised Vienna Convention “Where a nuclear incident occurs within the area of the exclusive economic zone of a Contracting Party or, if such a zone has not been established, in an area not exceeding the limits of an exclusive economic zone, were one to be established, jurisdiction over actions concerning nuclear damage from that nuclear incident shall, for the purposes of this Convention, lie only with the courts of that Party.” This is conditional upon there being notification by that Contracting Party to the Depositary, of such area, prior to the nuclear incident. In order to avoid any misunderstanding concerning the law of the sea, the same paragraph adds that “Nothing in this paragraph shall be interpreted as permitting the exercise of jurisdiction in a manner which is contrary of the international law of the sea, including the United Nations Convention on the Law of the Sea.”

There is an other new paragraph in Article XI on jurisdiction, which incontestably serves the interests of potential victims and facilitates the equitable distribution of compensation funds. That paragraph provides that the Contracting Parties shall ensure that only a single juridical forum has jurisdiction in relation to any one nuclear incident.

XIII. Actions for compensation

The addition to the jurisdiction provisions of the Convention of a new Article XIA concerning actions for compensation, is very important. It protects the interests of potential victims by allowing States to bring actions on behalf of their citizens and other victims who have suffered nuclear damage and have their domicile or residence in their territory. This provision was inspired by the fact that litigation in a foreign forum may subject the victims to undue inconvenience. It should be noted that it is very important, in cases of industrial accidents where there are potentially thousands of victims, to decide in advance who will have the right to represent the victims. For example, after the

27. Cf. David Attard: *The exclusive economic zone in international law*, Clarendon Press, Oxford, 1987, pp.94-106.

Bhopal catastrophe of 2 December 1984, one of the greatest industrial accidents of all time, one primary issue was whether India had the right to represent the victims.²⁸

The article in question, which is a procedural innovation of the Protocol, accords to victims a kind of protection which is rather special in terms of its legal nature. It differs from traditional diplomatic protection since it is not subject to exhaustion of local remedies and the damage to victims is not caused by a foreign State. Thus, to some extent, this protection is closer in nature to consular protection. At the same time, however, it is different in that the protection in this case is not accorded to persons staying abroad. Since the paragraph provides protection on an equal footing with nationals, for those foreigners who are permanent residents of the particular State, it may be possible for a victim, if there are victims in several States, to rely upon action and protection by both the State of his nationality and the State of his domicile or residence.

The last paragraph of the new Article XI A deals with claims by subrogation or assignment and states that those claims should be also admitted by the competent court.

XIV. Involvement of public funds in compensation for nuclear damages

One of the greatest novelties about the Protocol is that it expressly provides for compensation to be made available from public funds for nuclear damage. It should be added, however, that compensation from public funds will occur only if a State Party exempts an operator for up to half of its liability (during the phasing-in period the proportion may be even greater), in which case the Contracting Party must make public funds available to ensure a total amount of compensation as required by Article V.1. To counterbalance these provisions, the Protocol incorporates certain guarantees to protect public funds.

Article 4 of the Protocol can be said to contain such guarantees, as it adds to Article II of the Vienna Convention a provision under which the Installation State may limit the liability amounts payable from public funds in cases where several operators are jointly and severally liable. This amendment is intended to ensure that, although several operators are liable for nuclear damage, only one payment is made in respect of the incident itself.

Article 7. 2 of the Protocol adds a new Article VC to the Vienna Convention, providing for those cases where the competent court is not that of the Installation State.²⁹ Once again the protection for public funds appears here, since the Installation State is naturally required to reimburse the State of the competent court all payments made from public funds. According to the Protocol, the States concerned shall agree on the procedure for reimbursement. Another new provision quite logically allows the Installation State to intervene in proceedings and to participate in any settlement concerning compensation.

28. Cf Warren Freedman: *Foreign Plaintiffs in Products Liability Actions*, The Defense of Forum Non Conveniens. 1988, p.135.

29. Article V.C.

“1. If courts having jurisdiction are those of a Contracting Party other than the Installation State, the public funds required under sub-paragraphs (b) and (c) of paragraph 1 of Article V and under paragraph 1 of Article VII, as well as interest and costs awarded by a court, may be made available by the first-named Contracting Party. The Installation State shall reimburse to the other Contracting Party any such sums paid.”

A similar provision, added to Article X of the Vienna Convention, extends the right of recourse to the Installation State insofar as it has provided public funds for purposes of compensation.

In point of fact, Article 15 of the Protocol mentioned earlier similarly restricts compensation from public funds, protecting them by allowing derogation from the non-discrimination principle in certain cases.

XV. Dispute settlement

The Vienna Convention originally contained no provisions on dispute settlement.³⁰ Therefore, almost from the beginning of the discussions in the Standing Committee, the experts generally agreed on the need for the Convention to be supplemented in this respect. A variety of rather detailed proposals for the settlement of disputes were discussed including setting up a separate international tribunal or a claims commission, and a plan was even drawn up for a separate Annex to the Vienna Convention to settle matters relating to the aforementioned tribunal.³¹

Of the many proposals, a rather low-key one was eventually incorporated into Article 17 of the Protocol. The core and substance of the new dispute settlement mechanism (Article XXA of the revised Vienna Convention) is this: in the event of a dispute between State Parties to the Vienna Convention concerning the interpretation or application of the Convention “the parties to the dispute shall consult with a view to the settlement of the dispute by negotiation or by any other peaceful means of settling disputes acceptable to them”; if a dispute cannot be settled within 6 months from the request for consultation, any party may submit the dispute to arbitration or refer it to the International Court of Justice; where a dispute is submitted to arbitration and the parties to the dispute are unable to agree on the organization of the arbitration, any party may request the President of the International Court of Justice or the Secretary-General of the United Nations to appoint one or more arbitrators. It should be noted that in this paragraph the Protocol refers to disagreement on the organization of the arbitration, which could be a disagreement not only on the composition of the arbitral court, but on the rules of procedure as well. However, the Protocol points only to the first mentioned difference of opinion, stating that in cases of conflicting requests by the parties to the dispute, the request to the Secretary-General of the United Nations shall have priority. For that matter, a Contracting Party is not under any obligation to accept the dispute settlement mechanism provided by the Protocol, and when ratifying, accepting, or approving the Convention, it may declare that it does not consider itself bound by either or both of the dispute settlement procedures. The consequence is that the article governing dispute settlement is not to be regarded as valid as between the State making such a declaration and the rest of the Contracting Parties. Such declarations may of course be withdrawn at any time.

XVI. Textual adjustments

The Protocol contains certain provisions which are simply textual adjustments to the Vienna Convention. Mention may be made of the following paragraphs.

30. There is an Optional Protocol Concerning the Compulsory Settlement of Disputes appended to the Vienna Convention concluded at the same day as the Vienna Convention, however, that Protocol never entered into force.

31. Cf. SCNL Third Session, Note by the Secretariat, pp. 13-16.

- 1) Article 7.2 of the Protocol simply rewords the relevant article of the Vienna Convention to the effect that costs and interest awarded by courts in actions for compensation for nuclear damage shall not be chargeable against the liability amounts fixed by the Convention, that is, that such costs and interest shall be payable in addition to those amounts.
- 2) The revised version of Article XII of the Vienna Convention, on recognition and enforcement of judgements, can similarly be regarded as nothing but a rewording of the relevant provisions.
- 3) Article 2.1 of the Protocol revises Article I.1(j) of the Vienna Convention by redefining “nuclear installation” to include certain facilities which the IAEA Board of Governors deem to be nuclear installations, as a result of technological developments.
- 4) Article 16 of the Protocol amends Article XVIII of the Vienna Convention, governing the relationship between the Vienna Convention as **lex specialis** and international law as **lex generalis**. This change can be viewed as a minor amendment refining the existing text, but, unlike the earlier text, the revised wording refers both to rights and obligations under international law, as not being affected by the provisions of the Convention.
- 5) Another amendment of lesser importance, relating to the carriage of nuclear material, is that which modifies Article III of the Vienna Convention and which allows the Installation State to exclude the liable operator's obligation to provide a carrier with a certificate of financial security, in respect of carriage of nuclear material within that State.

XVII. Peaceful co-existence of two Vienna Conventions

As was already noted, technically the Vienna Convention was revised by the adoption of the Protocol to amend the instrument, and according to Article 19 of the Protocol “A State which is Party to this Protocol but not to the 1963 Vienna Convention shall be bound by the provisions of that Convention as amended by this Protocol in relation to other States Parties hereto, and failing an expression of a different intention by that State at the time of deposit of an instrument referred to in Article 20 shall be bound by the provisions of the 1963 Vienna Convention in relation to States which are only Parties thereto.” This solution has created a special situation, because after the entry into force of the Protocol³² there will be living together or operating in practice “two” Vienna Conventions, notably the Convention's original text of 1963 and its new version as amended by the Protocol.

32. According to Article 21 “This Protocol shall enter into force three months after the date of deposit of the fifth instrument of ratification, acceptance or approval.”

After the Protocol has come into force, a State may only accede to the amended version, but in the *inter se* relations of the States Party to the “old” Vienna Convention the provisions of that Convention will remain in force until such time as they have acceded to the new Protocol. This rather complicated situation is nevertheless understandable and is fully in accord with Article 40 of the 1969 Vienna Convention on the Law of Treaties, which provides for the amendment of multilateral treaties.

In 1989 the negotiations on the revision of the Vienna Convention had begun with the aim of strengthening the existing nuclear liability regime and of improving the situation of potential victims of nuclear accidents. The Protocol to Amend the Vienna Convention serves those purposes; it also reflects a good compromise, since it is the outcome of a negotiation process in which experts from both nuclear and non-nuclear States, from Contracting Parties and non-Contracting Parties were very active. That affords some assurance that the compromise solution reached is acceptable to all States participating in the adoption of the Protocol. All of this holds hope for what, perhaps, matters most, that the Protocol will enter into force within a relatively short period of time.

Now that the Vienna Convention has been revised, it is to be expected that, on the one hand, there will be accessions to the revised Vienna Convention by further States, chiefly those which have so far steered clear of its liability regime precisely because of its insufficiencies, and, on the other hand, the present States Party to the Vienna Convention will ratify the Protocol or accede to it, thereby causing the 1963 Vienna Convention to eventually lose its effect.

The Compensation Convention: Path to a Global Regime for Dealing with Legal Liability and Compensation for Nuclear Damage

by Ben McRae*

Introduction

The adoption of the Convention on Supplementary Compensation for Nuclear Damage (Compensation Convention) opens a new chapter in international nuclear liability law. The Compensation Convention provides the world community with the opportunity to deal with legal liability and compensation for nuclear damage through a global regime that includes all countries that operate nuclear power plants (nuclear power generating countries) and most countries that do not operate nuclear power plants (non-nuclear power generating countries). Such a global regime can remove legal uncertainty as an impediment to (1) ensuring the highest level of safety in nuclear activities and (2) arranging international co-operation in nuclear projects, while guaranteeing the availability of meaningful compensation in the event of a nuclear incident.

This Article describes the features of the Compensation Convention that create the opportunity for a global regime. It also discusses some of the provisions in the Convention that underlie these features.

Features of the Compensation Convention

Free-standing

The Compensation Convention is a free-standing instrument open to all States. As a free-standing instrument, it offers a country the means to become part of the global regime without also having to become a member of the Paris Convention¹ (Paris State) or the Vienna Convention² (Vienna State).³

* Ben McRae is Assistant General Counsel for Civilian Nuclear Programs in the Office of General Counsel, US Department of Energy. The facts contained and ideas expressed in this article are the responsibility of the author alone.

1. The 1960 Paris Convention on Third Party Liability in the Field of Nuclear Energy.
2. The 1963 Vienna Convention on Civil Liability for Nuclear Damage, including the amended version established by the 1997 Protocol to Amend the Vienna Convention. Where a reference only refers to the original version or the amended version, the terms “existing Vienna Convention” and “revised Vienna Convention” are used, respectively.
3. Although the Compensation Convention is free-standing with respect to other liability conventions, it is not entirely free-standing. Article XVIII.1 requires a country with one or more civil nuclear power plants on its territory to be a member of the Convention on Nuclear Safety in order to be a member of the Compensation

The free-standing nature of the Compensation Convention is important because many nuclear power generating countries and most non-nuclear power generating countries are not members of the Paris Convention or the Vienna Convention. Of the ten countries with the largest amount of installed capacity⁴ (Canada, France, Germany, Japan, the Republic of Korea, the Russian Federation, Sweden, Ukraine, the United Kingdom, and the United States), only half (France, Germany, Sweden, Ukraine, and the United Kingdom) are either Paris States or Vienna States and only one (Sweden) is a member of the Joint Protocol⁵ that links the Paris Convention and the Vienna Convention. Overall, those nuclear power generating countries that do not belong to the Paris Convention or the Vienna Convention account for more than half of worldwide installed capacity.

The Compensation Convention makes a global regime possible by providing the basis for treaty relations to link Paris States and Vienna States with those countries that do not belong to either liability convention but are willing to accept the basic principles of nuclear liability law in the context of the Compensation Convention.

Balance

Many countries, and especially non-nuclear power generating countries, have been unwilling to join the Paris Convention or the Vienna Convention because they perceive these Conventions as not focusing sufficiently on the concerns of those who might suffer nuclear damage in the event of a nuclear incident. The Compensation Convention maintains the basic principles of nuclear liability law set forth in the Paris Convention and the Vienna Convention, while including provisions to ensure more meaningful compensation for nuclear damage. This more balanced approach is fundamental to attracting the broad adherence necessary for a global regime.

Enhancements

The Compensation Convention addresses many of the issues that have discouraged many countries from joining the Paris Convention or the Vienna Convention. Specifically, the Compensation Convention contains enhanced provisions on the amount available to compensate nuclear damage, the definition of nuclear damage, and the treatment of maritime nuclear incidents.

Many countries, and especially non-nuclear power generating countries, are unwilling to enter into treaty relations on the basis of the compensation amounts potentially available under the

Convention (a member country). Unless otherwise identified, cited Articles are those of the Compensation Convention, including the Annex.

4. Installed capacity refers to the thermal power (expressed in Megawatts) of a nuclear powerplant authorized by the competent national authorities. See Articles I(j) and IV.2 for the definition of installed nuclear capacity and for the use of that definition in determining contributions to the international fund.
5. The 1988 Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention. The Joint Protocol is not a free-standing instrument since it requires membership in either the Paris Convention or the Vienna Convention. Although the Joint Protocol has not proven to be the basis for a global regime, it has demonstrated the potential to create a regional arrangement among European nuclear power generating countries. Efforts to link Paris States and Vienna States through the Joint Protocol and to create a global regime through the Compensation Convention are compatible since a Paris State or a Vienna State can be a member of both the Joint Protocol and the Compensation Convention.

Paris Convention and Vienna Convention.⁶ The Compensation Convention addresses these concerns by providing for a substantial increase in the amount that is guaranteed to be available to compensate nuclear damage. First, it requires a member country to ensure the availability of at least 150 million SDRs to compensate nuclear damage during the period prior to September 29, 2007, and at least 300 million SDRs thereafter. Second, it provides for an international fund of approximately 300 million SDRs to supplement the compensation available under national law.⁷ And third, one-half of the international fund is reserved exclusively for transboundary damage.⁸

The Compensation Convention responds to longstanding concerns over the definition of nuclear damage by explicitly identifying the types of damage that are considered nuclear damage. In addition to personal injury and property damage, the enhanced definition includes five categories of damage relating to impairment of the environment, preventive measures, and economic loss. The definition is clear that these additional categories are covered to the extent determined by the law of the competent court.⁹ The enhanced definition thus provides certainty that the concept of nuclear damage includes impairment of the environment, preventive measures, and certain economic loss, while recognizing that detailed implementation of this concept is best left to national law.

The Compensation Convention recognizes the concerns of coastal states over maritime shipments of nuclear material by providing the courts of a member country with exclusive jurisdiction over a nuclear incident that occurs within its exclusive economic zone (EEZ).¹⁰ The Compensation

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6. Article 7 of the Paris Convention permits a Paris State to limit the liability of an operator (and thus the amount of compensation available) to 15 million SDRs. The OECD Steering Committee for Nuclear Energy, which is empowered to adopt recommendations concerning the Paris Convention, has recommended that Paris States limit the liability of an operator to no less than 150 million SDRs, but several Paris States have not implemented this non-binding recommendation fully. Article V of the existing Vienna Convention permits an existing Vienna State to limit the liability of an operator to 5 million 1963 United States gold dollars (approximately 60 million SDRs). Article V of the revised Vienna Convention permits a revised Vienna State to limit the liability of an operator to 100 million SDR's during the first fifteen years after the revised Vienna Convention enters into force and thereafter to limit the liability of an operator to 300 million SDRs. The revised Vienna Convention has not yet entered into force.
 7. For purposes of this Article, unless otherwise specified, references to the amount of compensation available assume that the Installation State has elected to make 300 million SDRs available under its national law as the first tier amount and that the international fund provides 300 million SDRs as the second tier amount. The exact size of the fund will depend on the installed capacity of the member countries at the time of the nuclear incident that triggers the operation of the fund. See Article IV.2. When most nuclear power generating countries join the Compensation Convention, the fund will provide approximately 300 million SDRs.
 8. Transboundary damage means damage outside the Installation State, which is the country responsible for regulating the liable operator. See Article XI.1(b). Thus, with respect to a nuclear incident at a nuclear installation, transboundary damage means damage outside the country where the incident occurs. However, with respect to a nuclear incident during transportation outside the Installation State, transboundary damage would include damage in the country where the incident occurs.
 9. Article I(k) defines law of the competent court as the national law of the member country whose courts have jurisdiction over a nuclear incident, including any rules relating to conflict of laws. Article I(k) corresponds to Article I.1(e) of the Vienna Convention. See also, Article 14(b) of the Paris Convention.
 10. The EEZ is a relatively recent concept in the Law of the Sea that recognizes the interest of a coastal state in the maritime area adjacent to its territorial sea. In general, an EEZ is the maritime area between the boundary of a country's territorial sea and 200 miles offshore. An EEZ is not considered part of a country's territory. The Paris Convention and the existing Vienna Convention predate the development of the EEZ concept and thus do not address it. The revised Vienna Convention addresses the EEZ concept in the same manner as the Compensation Convention.

Convention is clear that this jurisdictional rule is intended only for determining which member country's courts have jurisdiction for the purposes of the Convention (that is, adjudicating claims for nuclear damage resulting from a nuclear incident). The rule does not permit any exercise of jurisdiction that is inconsistent with the Law of the Sea.

Consistency

The Compensation Convention is consistent with the basic principles of nuclear liability law set forth in the Paris Convention and the Vienna Convention, such as (1) channeling all legal liability for nuclear damage exclusively to the operator, (2) imposing absolute liability¹¹ on the operator, (3) granting exclusive jurisdiction to the courts of the country where a nuclear incident occurs, and (4) limiting liability in amount and in time. The Compensation Convention achieves this consistency by requiring a member country to be either a Paris State or a Vienna State or to have national legislation consistent with the provisions of the Annex to the Compensation Convention (that is, to be an Annex State). The provisions of the Annex set forth the basic principles of nuclear liability law in the same manner as the Paris Convention and the Vienna Convention.

Compatibility

To the maximum extent practicable, the Compensation Convention has been developed to be compatible with the Paris Convention and the Vienna Convention.¹² As a result, no change in the Paris Convention or the Vienna Convention is needed in order for a Paris State or a Vienna State to join the Compensation Convention. A Paris State or a Vienna State would have to change its national law only to the extent necessary to reflect the provisions in the Compensation Convention that apply to all member countries. These provisions include (1) ensuring the availability of at least 150 million SDRs to compensate nuclear damage until 2007, and at least 300 million SDRs thereafter, (2) implementing the enhanced definition of nuclear damage, and (3) extending coverage to include all members countries. None of these actions would be inconsistent with the Paris Convention or the Vienna Convention. Annex States would have to take similar actions, as well as ensure their national laws were consistent with the basic principles of nuclear liability law set forth in the Annex.

The Compensation Convention also takes into account the special situation of the United States whose national law on legal liability and compensation for nuclear damage predates both the Paris Convention and the existing Vienna Convention.¹³ Although the national law of the United States is generally consistent with the basic principles of nuclear liability law set forth in the Paris

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11. Absolute liability means that liability is imposed without the need to demonstrate fault or negligence.
 12. The relationship of the Compensation Convention to the Brussels Convention is beyond the scope of this article. However, discussions during the development of the Compensation Convention indicated that it might be possible to use the Brussels Convention either to supply part of the first tier of compensation required by the Compensation Convention (that is, the Brussels Convention could act as a regional pooling arrangement to assist Brussels States in ensuring the availability of 300 million SDRs under their national laws) or to provide compensation in addition to that provided under the Compensation Convention (that is, the Brussels Convention could be used to compensate nuclear damage in Brussels States that was not fully compensated through the operation of the Compensation Convention). Article XII.3(a) provides for both possibilities.
 13. The United States national law is the Price-Anderson Act, which is section 170 of the Atomic Energy Act of 1954. The Price-Anderson Act was adopted in 1957 and currently provides the basis for commercial arrangements that cover more than 100 nuclear power plants in the United States.

Convention and the Vienna Convention, it uses a different legal theory to achieve the same practical result of making the operator exclusively responsible for nuclear damage.¹⁴ This difference prevents the United States from satisfying all the requirements of the Paris Convention or the Vienna Convention and thus becoming a Paris State or a Vienna State.

The Compensation Convention addresses this situation through Article 2 of the Annex (the “grandfather clause”) under which the national law of the United States is deemed to satisfy certain requirements of the Annex. By permitting the United States to join the Compensation Convention as an Annex State, the grandfather clause removes a major impediment to achieving a global regime.¹⁵

Major provisions of the compensation Convention

Compensation

The Compensation Convention provides for a substantial enhancement in the compensation of nuclear damage as compared to the Paris Convention and the Vienna Convention. Specifically, the Compensation Convention will guarantee the availability of approximately 600 million SDRs to compensate nuclear damage, of which approximately 150 million SDRs will be reserved exclusively for transboundary damage.

Article III.1(a) provides that the Installation State must ensure the availability of the first tier of compensation. The Compensation Convention does not specify how a country should ensure the availability of the first tier amount. Thus, a country has the flexibility to choose the funding mechanism from options such as private insurance, an operator pool, or a regional agreement.¹⁶ Although a country does have the obligation to use public funds to ensure the availability of the first tier amount if other funding mechanisms are insufficient, there is no obligation to set aside any public funds for this purpose prior to the time, if ever, that the first tier amount is needed to compensate nuclear damage.

Article III.1(a)(i) establishes 300 million SDRs as the first tier amount. Article III.1(a)(ii), however, permits a country to establish a transitional first tier amount of no less than 150 million SDRs during the period prior to September 29, 2007. This transitional amount reflects the current availability of private insurance and the liability limits in many existing national laws.

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14. The primary difference between the national law of the United States and the provisions of the Paris Convention and the Vienna Convention relates to how responsibility for nuclear damage is channeled exclusively to the operator. The Paris Convention and the Vienna Convention prescribe legal channeling under which an operator is the only person legally liable for nuclear damage. The national law of the United States provides for economic channeling under which the operator bears all the economic consequences for nuclear damage, even though other persons might be legally liable. Persons other than the liable operator are indemnified if they incur costs because of legal liability.
 15. The United States has been a major proponent of the Compensation Convention as a means to achieve a global regime that includes all nuclear power generating countries and most non-nuclear power generating countries. On September 29, 1997, it became the first country to sign the Compensation Convention.
 16. Article XII.3(a) explicitly recognizes the possibility of regional agreements being used to fulfill the funding obligations under Article III.1(a).

Article III.1(b) provides that the second tier of compensation will come from an international fund to which member countries contribute. This international fund should provide approximately 300 million SDRs to compensate nuclear damage if its operation is triggered by a nuclear incident.

Article IV.1(a) establishes a contribution formula under which more than ninety percent of the contributions come from nuclear power generating countries on the basis of their installed nuclear capacity, while the remaining portion comes from all member countries on the basis of their United Nations rate of assessment.¹⁷ Since nuclear power generating countries generally have high United Nations rates of assessment, this formula should result in more than ninety-eight percent of the contributions coming from nuclear power generating countries.

Article VII.1 provides that a member country shall make contributions to the international fund only to the extent and when such contributions are actually needed. There is no obligation to set aside public funds for this purpose prior to the time they are needed.

Article IV.1(c) provides for a cap on the contributions from any one member. This cap is intended to ensure that countries with relatively large amounts of installed capacity are not obligated to provide an inordinate share of the international fund during the early stages of the growth to a global regime.¹⁸ To minimize the effects of the cap, Article IV.1(c) provides for the cap to phase-out as more nuclear power generating countries join the Compensation Convention¹⁹ and further provides that the cap shall not operate to benefit the member country that is the Installation State with respect to a nuclear incident that triggers the operation of the fund.

Article XI.1(a) provides that half of the international fund will be used to compensate nuclear damage either in the Installation State or outside the Installation State (transboundary damage).²⁰ Article XI.1(b) provides that the other half of the international fund will be allocated exclusively to cover any transboundary damage not compensated under Article XI.1(a).²¹ The reservation of half of the international fund exclusively for transboundary damage recognizes the

17. Article IV.1(a)(i) provides that each member country with one or more nuclear reactors shall contribute 300 SDRs for each Megawatt (thermal) of installed capacity. Article IV.1(a)(ii) provides that an amount equal to ten percent of the contributions under Article IV.1(a)(i) will come from contributions allocated among all member countries on the basis of their United Nations rate of assessment. Article IV.1(b) provides that no contribution will be required from member countries on the minimum United Nations rate of assessment with no nuclear reactors.

18. Article IV.1(c) provides that the contribution of a member country to the international fund shall not exceed a specified percentage of what the total fund would be in the absence of the cap. The specified percentage is a member country's United Nations rate of assessment expressed as a percentage plus eight percentage points.

19. Article IV.1(c) provides for the phase-out by increasing the specified percentage as the total installed capacity of members countries increases, that is as more nuclear power generating countries join the Convention. Specifically, the specified percentage increases by one percent when total installed capacity reaches 625,000 Megawatts and thereafter by one percent for each additional 75,000 Megawatts increase in total installed capacity.

20. Article XI does not use the term "transboundary damage". Instead, Article XI.1(b) refers to "nuclear damage outside the territory of the Installation State."

21. Article XI.1(c) contains a special rule for the case where an Installation State uses the transition rule in Article III.1(a)(ii) to make available a first tier amount of less than 300 million SDRs. In such a case, Article XI.1(c) provides for adjustments in the amounts identified in Article XI.1(a) and (b) that result in more than half of the international fund being reserved exclusively for transboundary damage.

importance that the international community attaches to compensating transboundary damage. Moreover, it provides an important incentive for joining the Compensation Convention to non-nuclear power countries, as well as any nuclear power generating country that does not expect one of its operators to be responsible for a nuclear incident that triggers the operation of the fund.

The reservation of half of the international fund exclusively for transboundary damage also reflects the fact a first tier amount of 300 million SDRs is considerably lower than many countries would have preferred. In order to give member countries an incentive to provide a larger first tier amount, Article XI.2 eliminates the reservation for transboundary damage if the Installation State ensures the availability of a first tier amount of no less than 600 million SDRs. The combination of such a first tier amount and the second tier international fund would make almost 1 billion SDRs available to compensate nuclear damage.

Article XII.2 recognizes the right of a member country to establish a third tier of compensation in addition to the first and second tiers. With one minor exception, the Compensation Convention does not govern the distribution of this third tier.²²

Definition of Nuclear Damage

The Compensation Convention enhances the definition of nuclear damage by explicitly identifying the types of damage that are considered nuclear damage.²³ Article I(f) is the same as the definition of nuclear damage in Article I.1(k) of the revised Vienna Convention, which enhances the definition in Article I.1(k) of the existing Vienna Convention. The Paris Convention does not refer to nuclear damage, but incorporates a similar concept through the definition of nuclear incident in Article 1(a) and the identification in Article 3(a) of damage for which the operator is liable. In addition to personal injury and property damage, the enhanced definition identifies five categories of damage relating to impairment of the environment²⁴, preventive measures²⁵, and economic loss²⁶ that

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22. Article XII.2 provides that a member country cannot use lack of reciprocity as a basis to exclude damage from compensation under the third tier if such damage occurs in another member country having no nuclear installations on its territory.
 23. Article I(f) defines nuclear damage to include: (i) loss of life or personal injury, (ii) loss of or damage to property; and each of the following to the extent determined by the law of the competent court: (iii) economic loss arising from loss or damage referred to in (i) or (ii), insofar as not included in (i) or (ii), if incurred by a person entitled to claim in respect of such loss or damage; (iv) the costs of measures of reinstatement of impaired environment, unless such impairment is insignificant, if such measures are actually taken or to be taken, and insofar as not included in (ii); (v) loss of income deriving from an economic interest in any use or enjoyment of the environment, incurred as a result of a significant impairment of the environment, and insofar as not included in (ii); (vi) the costs of preventive measures, and further loss or damage caused by such measures; and (vii) any other economic loss, other than any caused by the impairment of the environment, if permitted by the general law on civil liability of the competent court. The definition is clear that damage within all these categories, except preventive measures, must be caused by the release of radiation.
 24. Subsections (iv) and (v) of the definition of nuclear damage deal with damage resulting from impairment of the environment. The Compensation Convention does not define impairment of the environment. Article I(g) does define measures of reinstatement as reasonable measures which aim to reinstate or restore damaged or destroyed components of the environment, or to introduce, where reasonable, the equivalent of these components into the environment. Article I(g) requires that the measures be approved by the competent authorities of the State where the measures are taken and that the measures be taken by a person entitled to take such measures under the law of the State where the measures are taken.
 25. Subsection (vi) of the definition of nuclear damage deals with preventive measures. Article I(h) defines preventive measures as reasonable measures taken by a person after a nuclear incident has occurred to prevent or

must be treated as nuclear damage. The definition is clear that national law determines the extent to which these additional categories are covered.

The Compensation Convention also revises the definition of nuclear incident²⁷ to make clear that, in the absence of an actual release of ionising radiation, preventive measures can be taken only in response to a grave and imminent threat of a release of radiation that could cause other types of nuclear damage. The use of the phrase “grave and imminent” makes clear that preventive measures cannot be taken on the basis of speculation that radiation might be released and that some damage might occur. Rather, there must be a credible basis for believing that a release of radiation with severe consequences is impending and likely to occur in the very near future.

The Compensation Convention is explicit that preventive measures and measures of reinstatement relating to impairment of the environment must be reasonable. The importance of reasonableness is confirmed by the inclusion of a definition of reasonable measures.²⁸ This definition is clear that the competent court is responsible for determining whether a measure is reasonable under its national law, taking into account all relevant factors.

Exclusive Jurisdiction

Article XIII of the Compensation Convention reaffirms the basic principle of nuclear liability law that exclusive jurisdiction over a nuclear incident lies with the courts of the member country where the incident occurs or with the courts of the Installation State if the incident occurs outside any member country.²⁹ Article XIII is, in effect, the primary linking mechanism in the Compensation Convention because it commits all member countries to recognize the jurisdiction of the courts of other member countries and provides that only one member country’s courts will have jurisdiction over a nuclear incident.³⁰

Article XIII enhances the jurisdiction provisions in the Paris Convention and the existing Vienna Convention by recognizing recent developments in the Law of the Sea and the concerns of

minimize other nuclear damage. The taking of these measures is subject to approval by competent authorities if such approval is required by the law of the State where the measures are taken.

26. Subsections (iii) and (vii) of the definition of nuclear damage deal with economic loss.
27. Article I(i) defines nuclear incident as any occurrence or series of occurrences having the same origin which cause nuclear damage or, but only with respect to preventive measures, creates a grave and imminent threat of causing such damage. Article I(i) is the same as the definition in Article I.1(l) of the revised Vienna Convention, which enhances the definition in Article I.1(l) of the existing Vienna Convention through the addition of the concluding clause relating to preventive measures. This enhancement is necessary to permit preventive measures to qualify as nuclear damage in the case where there is no release of ionising radiation but there is a grave and imminent threat of such a release. See also, Article 1(a)(i) of the Paris Convention.
28. Article I(l) defines reasonable measures as measures which are found under the law of the competent court to be appropriate and proportionate. In making this determination, the competent court must take into account all the circumstances, including but not limited to: (i) the nature and extent of the damage incurred or, in the case of preventive measures, the nature and extent of the risk of such damage; (ii) the extent to which, at the time they are taken, such measures are likely to be effective; and (iii) relevant scientific and technical expertise.
29. Article XIII corresponds Article XI of the Vienna Convention and Article 13 of the Paris Convention.
30. Article XIII also sets forth the rules on enforcement of judgments. These rules correspond to the rules in Article XII of the Vienna Convention and Article 13 of the Paris Convention.

coastal States over maritime shipments of nuclear material. Specifically, it provides that the courts of a member country will have exclusive jurisdiction over claims for nuclear damage resulting from a nuclear incident in its EEZ.³¹ Article XIII is clear that the EEZ jurisdiction is only for purposes of the Compensation Convention and relates only to the adjudication of claims for nuclear damage. Article XIII does not create any rights or obligation concerning actual shipments.

Although Article XIII grants jurisdiction over a nuclear incident to the member country in whose EEZ the incident occurs, the liability of the operator is determined by the national law of the Installation State.³² Since the EEZ is not part of the territory of a coastal State, a member country cannot make transit through its EEZ subject to the acceptance of a higher liability amount.³³

Article XIII was placed in the main body of the Compensation Convention to make clear that Article XIII applies to all member countries and takes precedence over similar jurisdictional provisions in the Paris Convention and the Vienna Convention.³⁴ The likelihood of a different jurisdictional outcome is very slight and can only occur in a situation where a nuclear incident occurs in the territory or EEZ of a member country during the transportation of nuclear material. Giving precedence to the provisions of the Compensation Convention in these situations ensures that jurisdiction will lie with the member country most affected by a nuclear incident, namely the country where the incident occurs.

Scope

Article II.2 restricts the scope of the Compensation Convention to nuclear incidents involving nuclear installations used for peaceful purposes. The Compensation Convention establishes no rights or obligations with respect to military installations.

Article XV makes it clear the Compensation Convention deals only with civil liability. It does not address or affect the rights and obligations, if any, of a member country under the general rules of public international law.³⁵

Article III.2(a) provides that the first tier amount shall be distributed equitably without discrimination on the basis of nationality, domicile or residence.³⁶ Article III.2(a), however, permits

31. Article XIII provides that if the exercise by a member country of jurisdiction over nuclear damage resulting from a nuclear incident in its EEZ is inconsistent with its obligations under the Paris Convention or the Vienna Convention to a non-member country, then jurisdiction shall be determined as if the nuclear incident occurred outside the territory or the EEZ of any member country.

32. Article 7(d) of the Paris Convention, Article V of the Vienna Convention, and Article 6.1 of the Annex provides that the maximum amount of liability of the operator shall be governed by the national law of the Installation State.

33. See Article 7(e) of the Paris Convention and Article 6.2 of the Annex, which provide for the possibility of a higher liability amount in the case of transit through the territory of a Contracting Party.

34. The Vienna Convention on the Law of Treaties deals with this issue in Article 30 on the application of successive treaties relating to the same subject matter. The rules in Article 30 are clear that a member country will be bound by the jurisdictional provisions in the Compensation Convention rather than the corresponding provisions in the Vienna Convention or the Paris Convention.

35. Article XV corresponds to Article XVIII of the Vienna Convention.

36. Article III.2(a) corresponds to Article XIII of the Vienna Convention and Article 14 of the Paris Convention.

the exclusion of nuclear damage in a non-member country from compensation under the first tier amount.³⁷ A Paris State or a Vienna State that is a non-member country cannot be excluded to the extent such an exclusion would be inconsistent with the treaty obligations of the Installation State under the Paris Convention or the Vienna Convention.

Article III.2(b) provides that the second tier amount shall be distributed equitably without discrimination on the basis of nationality, domicile or residence, subject to the conditions in Article V on the geographic scope of nuclear damage covered by the second tier.³⁸ Specifically, nuclear damage must be suffered (1) in the territory of a member country, (2) in or above the EEZ of a member country or on the continental shelf of a member country in connection with the exploitation or exploration of natural resources therein, or (3) (a) in or above maritime areas beyond the territorial sea of any country and (b) (i) by a national of a member country or (ii) on board or by a ship flying the flag of a member country, or on board or by an aircraft registered in the territory of a member country, or on or by an artificial island, installation or structure under the jurisdiction of a member country.

Annex

Article II.3 makes it clear that the Annex constitutes an integral part of the Compensation Convention. The provisions of the Annex, however, only apply to those member countries that join the Convention as Annex States.

The introduction to the Annex obligates a member country that is not a Paris State or a Vienna State to ensure its national law is consistent with the provisions of the Annex. The introduction permits the provisions of the Annex to be incorporated directly into the national law of a member country as self-executing treaty obligations to the extent a member country recognizes this concept. It also provides that a member country with no nuclear installations on its territory is required to have only those provisions in its national law that are necessary for that country to give effect to its obligations under the Compensation Convention.

Article 1 of the Annex sets forth certain definitions for use in applying the provisions of the Annex.³⁹ The definitions in Article I of the Compensation Convention also apply to the Annex.⁴⁰

Article 2 of the Annex is the grandfather clause. Article 2.1 deems the provisions in Articles 3, 4, 5 and 7 of the Annex to be satisfied so long as certain conditions were met on January 1, 1995 and continue to be met with respect to nuclear incidents involving certain specified nuclear

37. Article III.2(a) provides that the national law of the Installation State determines the extent, if any, to which nuclear damage in non-member countries is excluded.

38. Article III.2(b) also recognizes that Article XI.1(b) reserves a portion of the second tier amount exclusively for transboundary damage if the Installation State establishes a first tier amount of less than 600 million SDRs.

39. These definitions are the same as the corresponding definitions in Article I of the Vienna Convention.

40. The definitions in Article I apply to all the provisions in the Compensation Convention, including the Annex. The definitions of nuclear damage and nuclear incident in Article I are the same as the corresponding definitions in the revised Vienna Convention and represent an enhancement of the definitions in the existing Vienna Convention. The definitions in Article I apply to all member countries, whether they are Paris States, Vienna States, or Annex States. Thus, the enhanced definitions of nuclear damage and nuclear incident must be implemented by all member countries, including Paris States and existing Vienna States.

installations.⁴¹ In general, these conditions are that (1) absolute liability applies in the event there is substantial nuclear damage off the site where a nuclear incident occurs, (2) all persons other than the liable operator are indemnified for any legal liability they might incur, and (3) compensation for nuclear damage is available in an amount of no less than 1 billion SDRs for a nuclear incident at a civil nuclear power plant and in an amount of no less than 300 million SDRs for a nuclear incident at any other nuclear installation.

Although the grandfather clause does not refer specifically to the United States, it is the only country that met the conditions set forth in Article 2.1 on January 1, 1995 and thus the only country that can use the grandfather clause to qualify as an Annex State. Moreover, since the conditions in the grandfather clause only apply to a country that is making use of the clause to qualify as an Annex State, these conditions apply to no Annex State other than to the United States.

For the most part, the substantive provisions in Articles 3-11 of the Annex repeat the comparable provisions in the Vienna Convention and the Paris Convention. To the extent practicable, Articles 3-11 consolidate overlapping provisions in the Vienna Convention and the Paris Convention and elucidate the essential requirements for national nuclear liability law in a more streamlined manner.

Article 3 of the Annex sets forth the requirements relating to the liability of the operator.⁴² In particular, it imposes on Annex States two of the basic principles of nuclear liability law, namely legal channeling and absolute liability.

The channeling of legal liability exclusively to the operator is established by Article 3.1, which makes the operator solely liable for nuclear damage, and Article 3.9, which provides that any right to compensation for nuclear damage may be exercised only against the liable operator. Article 3.9 makes it clear that no person can be held legally liable for nuclear damage other than the operator who is exclusively liable under Article 3.1. No additional provisions are necessary to establish the exclusive legal liability of the operator for nuclear damage and to ensure that no legal

41. Article 2.3 defines nuclear installations for purposes of applying the grandfather clause. It includes civil nuclear reactors and civil facilities for processing, reprocessing or storing spent fuel or radioactive waste resulting from reprocessing spent fuel or containing transuranic elements.

In order to qualify for using the grandfather clause, these conditions must be met in the national law that applies within the territory of a member country. It is not mandatory for these conditions to be met in the national law that applies to nuclear incidents outside the territory of a member country. To the extent these conditions are not met in the national law that applies to a nuclear incident outside the territory of a member country (such as a nuclear incident in its EEZ), Article 2.4 provides that the provisions of Articles 3-11 of the Annex shall apply and prevail over any inconsistent provisions of such national law.

42. Article 3 of the Annex is based on Articles II and IV of the Vienna Convention and Articles 3, 4, 6 and 9 of the Paris Convention. Article 3.1 corresponds to Article II.1 of the Vienna Convention; See also, Article 3(a) and (b) of the Paris Convention. Article 3.2 corresponds to Article II.2 of the Vienna Convention; See also, Article 4(d) of the Paris Convention. Article 3.3 corresponds to Article IV.1 of the Vienna Convention; See also, Articles 3 and 4 of the Paris Convention. Article 3.4 corresponds to Article IV.4 of the Vienna Convention; See also, Article 3(b) of the Paris Convention. Article 3.5 corresponds to Article IV.3(a) and (b) of the Vienna Convention; See also, Article 9 of the Paris Convention. Article 3.6 corresponds to Article IV.2 of the Vienna Convention; See also, Article 6(c)(i)(1) of the Paris Convention. Article 3.7(a) and (b) correspond to Article 3(a)(ii)(1) and (2) of the Paris Convention; See also, Article IV.5 of the Vienna Convention. Article 3.7(c) corresponds to Article IV.6 of the Vienna Convention. Article 3.8 corresponds to Article IV.7 of the Vienna Convention. Article 3.9 corresponds to Article 6(a) of the Paris Convention; See also, Article II.5 and II.7 of the Vienna Convention. Article 3.10 corresponds to Article 6(c)(ii) of the Paris Convention.

actions may lie against any other person and, in particular, any person who has supplied any services, materials or equipment in connection with the planning, construction, modification, maintenance, repair or operation of a nuclear installation.

Article 3.3 provides that the liability of the operator shall be absolute. In other words, an operator is liable, irrespective of fault, for nuclear damage resulting from a nuclear incident involving a nuclear installation of the operator. It is only necessary to demonstrate that the nuclear damage is caused by the nuclear incident.

Article 4 of the Annex establishes 300 million SDRs as the minimum amount to which an Annex State can limit the liability of an operator.⁴³ Article 4.2 provides for the possibility of a two-tier approach under which an Annex State can limit the liability of an operator to no less than 150 million SDRs, provided that the Annex State makes available public funds for the difference between 300 million SDRs and the limit on the liability of the operator.⁴⁴

Article 4 is explicit that the 300 million SDRs requirement is “subject to Article III.1(a)(ii)”. Article III.1(a)(ii) establishes the transitional rule for the Compensation Convention as to when a member country must ensure the availability of at least 300 million SDRs to compensate nuclear damage. Thus, an Annex State can limit the liability of an operator under Article 4 to no less than 150 million SDRs during the period prior to September 29, 2007, without having to make public funds available to cover the difference between 300 million SDRs and the limit on the liability of the operator.⁴⁵

Article 5 of the Annex sets forth the requirements on financial security to cover the liability of an operator and the obligation of an Annex State to satisfy claims if the financial security is insufficient to cover claims up to the limit on liability established pursuant to Article 4 of the Annex.⁴⁶ Article 5 makes it clear that if an Annex State imposes unlimited liability on an operator, it may limit the financial security requirement to 300 million SDRs and thereby limit its obligation to satisfy claims for which the financial security is insufficient.⁴⁷

Article 6 of the Annex sets forth certain rules concerning the operation of the Annex with respect to the transportation of nuclear material.⁴⁸ Article 6.1 provides that the liability of the operator

43. Article 4 differs significantly from the comparable provisions in Article V of the existing Vienna Convention and Article 7 of the Paris Convention with respect to the minimum amount to which a country can limit the liability of an operator. The 300 million SDRs minimum amount established by Article 4 is the same as the amount established by Article V of the revised Vienna Convention, but comes into effect sooner.

44. Article V of the revised Vienna Convention provides for a similar two-tier approach.

45. The provisions of Article III of the Compensation Convention apply to all member countries. Thus, all member countries must ensure the availability of 150 million SDRs to compensate nuclear damage during the period prior to September 29, 2007, and 300 million SDRs thereafter. This obligation is not affected by the possibility of lower limits on the liability of an operator under the Paris Convention, the existing Vienna Convention, or the revised Vienna Convention.

46. Article 5 corresponds to Article VII of the Vienna Convention; See also, Article 10 of the Paris Convention.

47. The treatment of an Annex State that imposes unlimited liability on its operators is the same as that of a revised Vienna State under Article VII.1(a) of the revised Vienna Convention.

48. Article 6 corresponds to Article 7(d), (e), and (f) of the Paris Convention. Article V of the Vienna Convention provides that the liability of the operator is determined by the national law of the Installation State, but the Vienna Convention has no comparable provisions to Article 7(e) and (f) of the Paris Convention.

for a nuclear incident during the transportation of nuclear material shall be determined by the national law of the Installation State. Article 6.2 provides that a member country can make transit through its territory subject to the acceptance of a higher liability limit.⁴⁹ A member country cannot impose a higher liability limit than it imposes on operators situated within its territory. Article 6.3 makes it clear that the restriction in Article 6.2 does not apply to maritime transport involving the right of entry in cases of urgent distress or the right of innocent passage or to air transport where there is a right to fly over the territory of a member country by agreement or under international law.

Article 7 of the Annex deals with nuclear incidents where more than one operator is liable.⁵⁰

Article 7 makes it clear that the involvement of more than one operator does not have the effect of increasing the amount of public funds that a member country is obligated to make available under Article 4 of the Annex.

Article 8 of the Annex addresses several issues relating to compensation under national law. Article 8.1 provides that the amount of compensation is determined without regard to interest or costs.⁵¹ Article 8.2 establishes the rule that compensation for transboundary damage must be provided in a form freely transferable among member countries.⁵² Article 8.3 states that national law shall determine the relationship between compensation under the Compensation Convention and compensation under national or public health insurance, social insurance, social security, workmen's compensation or occupational disease compensation systems.⁵³

Article 9 of the Annex limits the time period during which an operator is liable.⁵⁴ In general, the period of liability is the ten years after the date of the nuclear incident. A member country can establish a longer period to the extent the liability of the operator is covered by insurance or other financial security or public funds for a longer period. If a member country establishes a longer period, its national law must contain provisions for the equitable and timely satisfaction of claims for loss of life or personal injury filed within the ten year period after the nuclear incident. Article 9 also permits a member country to limit the time period further by requiring a person to bring a claim for nuclear damage within three years of the date on which the person had knowledge or should have had knowledge of the damage and its cause.

Article 10 of the Annex makes it clear that national law may provide an operator with a right of recourse against a supplier or other person only in certain identified situations.⁵⁵ Specifically, an operator can be granted a right of recourse only where a written contractual provision explicitly

49. This provision only applies to transit through the territory of a member country and thus does not apply to transit through its EEZ.

50. Article 7 corresponds to Article VII of the revised Vienna Convention. See also, Article II.3 of the existing Vienna Convention and Article 5 of the Paris Convention.

51. Article 8.1 corresponds to Article V.2 of the existing Vienna Convention, Article VA.1 of the revised Vienna Convention, and Article 7(g) of the Paris Convention.

52. Article 8.2 corresponds to Article 12 of the Paris Convention. See also, Article V.4 of the existing Vienna Convention and Article VA.2 of the revised Vienna Convention.

53. Article 8.3 corresponds to Article IX.1 of the Vienna Convention and Article 6(h) of the Paris Convention.

54. Article 9 of the Annex corresponds to article VI of the existing Vienna Convention and Article 8 of the Paris Convention. See also, Article VI of the revised Vienna Convention.

55. Article 10 corresponds to Article X of the Vienna Convention and Article 6(f) of the Paris Convention.

provides for such a right or where a nuclear incident results from an act or omission with the intent to cause damage.

Article 11 of the Annex provides that national law shall govern the nature, form, extent and equitable distribution of compensation, subject to the explicit provisions of the Compensation Convention.⁵⁶

56. Article 11 corresponds to Article VIII of the Vienna Convention and Article 11 of the Paris Convention.

The Development of Nuclear Law-Making or the Art of Legal “Evasion”

by Katia Boustany*

Introduction

If there is a leitmotif to this end-of-century period, it is discussion about international law and compliance with its rules. Situated from the outset in the international sphere, nuclear law has recently been the subject of treaties which have given food for thought to lawyers anxious to ensure the effectiveness of legal rules. Although long-awaited and laboriously negotiated, these new instruments appear, on close reading, to deal in vague principles rather than real undertakings involving specific obligations to be met by States.

This judgment, which may at first sight seem severe, is based on a study of the normative spectrum designed to shape a suitable regulatory framework for civil nuclear activities. Many of these are texts – codes, guides, basic standards, etc.¹ – resulting from various processes within the IAEA or NEA, or from collaboration between these two Agencies, the ILO and the WHO, designed to allow governments to avoid having to adopt binding provisions. But if States opt rather to negotiate a treaty, they are normally supposed to commit themselves, under explicit provisions, to take specific measures designed to meet clearly defined objectives with adequate resources.

But paradoxically, the most recent Conventions dealing essentially with safety – whether of nuclear installations or of the management and storage of radioactive waste and spent fuel – are drafted in the most general terms, in stark contrast to the detailed wording of certain IAEA codes and guides on the same subject. It might at least have been hoped that in the absence of detailed treaty provisions – the purpose of which, it will be argued, is to supply a common comprehensive framework for specific measures by governments – such agreements would cite or clearly refer² to

* Katia Boustany Ph.D., is Professor in the Legal Science Department of the University of Quebec in Montreal, and Director of GRID – Centre of Research into Law, Science and Society. The author wishes to express her heartfelt thanks to the organisers of the INLA Congress in Tours, in particular its Chairman, Mr. Jean-Léo David, and Mr. Pierre Strohl, in charge of the Round Table, for the invitation extended to her to participate in the work of the Congress, a participation which gave her food for thought and prompted the writing of this article, for which a grant was also given by the Canadian Social Sciences and Humanities Research Council. The facts contained and ideas expressed in this article are the responsibility of the author alone.

1. And at times alarming polysemy marks the description of these regulatory instruments, of which there are many, especially in the field of the peaceful uses of the atom. From the legal standpoint, however, these differences in the names used are of no importance since a common feature of all these provisions from the outset is that they are not binding in nature.
2. Paragraph (viii) of the Preamble to the Convention on Nuclear Safety does not appear to us to be explicit enough about the commitment of States to treat the IAEA Codes and Safety Guides as anything other than an indicative reference. This results not only from the sibylline wording used but also from the fact that the Parties deliberately rejected the method of using technical annexes to the Convention drafted on the basis of the rules contained in these instruments. See: Odette Jankowitsch, “*The Convention on Nuclear Safety*”, Nuclear Law Bulletin, No. 54, December 1994, pp. 9-22, see p. 14, para. 22; Patrick Reyners, “*La Convention de 1994 sur la sûreté nucléaire*”, RGDIP (1995-3), pp. 605-621, see pp. 611-612.

those provisions of *soft law* which so far remain the only regulatory reference framework in this field. Such is not the case, however, and this is by no means an accident.

Again, the measures taken to improve the mechanism of the Vienna Convention on Nuclear Civil Liability are still far from bearing the anticipated fruit: many States with nuclear power plants have still not adopted national legislation in this sphere. Such a situation, more than ten years after the Chernobyl accident, reveals a fundamental contradiction with the introduction of the Rule of law and with international legal concerns in this respect.

This paper will endeavour to elucidate nuclear law by analysing the scope of the instruments underlying it through the prism of normative pluralism and the function of law as well as from the perspective of the relationship between international and domestic law.³ Its purpose is to examine the steps taken by governments and competent governmental agencies to fulfil their obligations as regards both their own citizens and their inter-State relations.

I. Nuclear safety caught in the trap of “soft law” and “nebulous law”

Since the 1970s, there has been lively debate in legal literature concerning non-treaty joint measures about, essentially, what constitutes “law”, what sort of things form it and by what process a rule acquires binding force through which it imposes a constraint on the parties concerned. These latter, in international law, are essentially States – major subjects of the law, something they share, however, to varying degrees, with other international actors.⁴ But, since sovereignty continues to be the cardinal and exclusive attribute of States, the notion that any consent to be bound must be based on their clearly expressed will to this effect, underlies the debate on the legal force of *soft law* instruments.

However, the process by which a norm or set of norms emerge as rules of law is not always the result of an irrefutable expression of a State’s initial intention: decisions taken by a State in an *a priori* non-binding context may nevertheless create an obligation as to its subsequent behaviour.⁵ Thus, it cannot be said that instruments of this type constitute “pre-normative acts” only, creating neither rights nor obligations which can be invoked in an international court or tribunal and that

3. Since we make no claim to exhaustiveness, we will essentially address two main questions: safety, and nuclear third party liability, though this will not prevent us mentioning other subjects where appropriate.

4. In its Opinion on Injuries suffered in the service of the United Nations (ICJ, 11 April 1949, Rep. 1949, pp. 174-188, see p. 178), the International Court of Justice said: “*The subjects of law in any legal system are not necessarily identical in their nature or in the extent of their rights, and their nature depends upon the needs of the community. Throughout its history, the development of international law has been influenced by the requirements of international life, and the progressive increase in the collective activities of States has already given rise to instances of action upon the international plane by certain entities which are not States*”.

5. In its judgments concerning the French nuclear tests (Australia v. France, New Zealand v. France, Merits, ICJ, 20 December 1974, Rep. 1974, pp. 253-274 and pp. 458-478, respectively, paras. 42-51 and 46-53), the ICJ held that the statements by the French Government, in particular those of the President of the Republic on the suspension of nuclear tests in the atmosphere, were legally binding despite the fact that when expressing this intention, the French authorities had not necessarily meant to bind themselves in this respect, especially as regards a specific date; indeed, this was how Australia and New Zealand interpreted the statements, considering them to be insufficient and seeking to obtain from the Court a declaration of incompatibility (Australia) or illegality (New Zealand) of the French nuclear tests with regard to international law. See: Brigitte Bollecker-Stern, “*L’Affaire des essais nucléaires français devant la Cour internationale de justice*”, (1974) AFDI, pp. 299-333, see pp. 328-333.

States do not incur any international liability for breaching them.⁶ Such an analysis discounts the role which international judges and arbiters may in fact give to the factor time, often the architect which transforms non-binding rules into compulsory legal ones with, in particular, the characteristics of general principles of law or international custom.⁷

However, even though that it can be said that soft law provisions are supposed to have legal effects⁸, it must be acknowledged that they are not, originally, binding in nature. In confirmation of this original intention, in his Foreword to each of the Codes on the safety of nuclear power plants, the Director-General of the IAEA states clearly that “*the Codes and Safety Guides are presented in such a form as to enable a Member State, should it so desire, to make their contents directly applicable to activities under its jurisdiction.*”⁹ Initially, it is therefore only if States, taken individually, so decide that such instruments, or some of their provisions, can be given the status of binding rules of law in the domestic legal system: States have no international law obligation in this respect. Over time, concordant national views could be said to reflect the existence of an *opinio juris*, the conviction of the existence of a rule of law which constitutes the psychological dimension without which common practice shared among States cannot be interpreted as a customary rule. But in order to have such legal effect, a judge or international arbiter called upon to settle a dispute involving a provision of this type, has to decide that it does so.

But so far, no international jurisdiction has had to rule on any of the *soft law* provisions which concern us. Had the accident at Chernobyl given rise to cases involving the liability of the Soviet State, it would have been possible to discuss the extent to which the USSR had failed to meet its international obligation by not requiring the nuclear operator to incorporate a containment barrier in the design of his nuclear plant¹⁰: this technological rule, the key purpose of which is to mitigate the consequences of serious accidents, is laid down in the Safety Code relating to the design of nuclear power plants¹¹ and has been followed by all Western nuclear countries as a technological standard

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6. Prosper Weil, *Vers une normativité relative en droit international?* (1982) RGDIP pp. 5-47, see p. 10.
 7. We shall not discuss here all the elements of the debate already addressed elsewhere, and would simply refer readers to: Katia Boustany, *Technologie(s): le phénomène d'internationalisation des normes*, in René Côté et Guy Rocher, *Entre droit et technique: enjeux normatifs et sociaux*, Les Éditions Thémis, Montréal, 1994, pp. 363-402, see pp. 392-400.
 8. Alain Pellet, “*Le “bon droit” et l’ivraie – plaidoyer pour l’ivraie*”, in *Mélanges offerts à Charles Chaumont, Le droit des peuples à disposer d’eux-mêmes*, Pedone, Paris 1984, 465, p. 490.
 9. Foreword of the Director-General of the IAEA to the five *Codes on the Safety of Nuclear Power Plants* dealing with Governmental Organization (Safety Series No. 50-C-G [Rev.1], Siting No. 50-C-S [Rev.1], Design (No. 50-C-D [Rev.1], Operation (No. 50-C-O [Rev.1], Quality Assurance (No. 50-C-QA [Rev.1], International Atomic Energy Agency, Vienna, 1989. The Code of Practice of the International Labour Office on the radiation protection of workers is more explicit still: “*Although drafted in the form of regulations, the provisions of the Code have no legal force and do not entail any obligation for Member States to bring their legislation into conformity with them*” (Radiation protection of workers [ionising radiations], International Labour Office, Geneva, 1987, Preface, p. VI).
 10. Raymond Latarjet, “*Sur l’accident nucléaire de Tchernobyl*”, in *Tchernobyl; le défi de l’atome*, 3/86 Politique étrangère (IFRI) 669-677; the key element highlighted by the author is the lack of any containment barrier around the reactor.
 11. Code on the Safety of Nuclear Power Plants: Design; Safety Standards, Vienna, Safety Series No. 50-C-D (Rev.1), International Atomic Energy Agency, 1989, para. 901, which provides: “*To keep the release of radioactivity to the environment below acceptable limits in accident conditions a system of confinement shall be provided unless it can be demonstrated that the release of radioactivity can be limited by other means*”. We were told, in interviews we had with the IAEA in 1991, that the standard relating to confinement existed already in the Code.

meeting the need to ensure defence in-depth.¹² It could therefore be concluded that a general practice has been established which, combined with an *opinio juris*, would have formed a custom specific to the nuclear field or, if such a practice is not considered to meet the “generality” requirement¹³, it could justifiably be thought at least to corroborate an *opinio juris* already expressed in the relevant provisions of the Safety Code and representing general nuclear law principles¹⁴ with binding force; this argument is supported by the fact that the above-mentioned Foreword by the Director-General of the IAEA states, with regard to the five safety Codes, that they “*establish the objectives and basic requirements that must be met to ensure adequate safety in the operation of nuclear power plants.*”

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12. Ibid, para. 209: “A second application of the **defence in depth** is as follows. A nuclear power plant is designed, constructed and operated in such a manner that the radioactive materials are contained within a succession of physical barriers. These physical barriers usually include the fuel itself, the fuel cladding, the reactor coolant system boundary and the **containment envelope**. The design shall provide for the appropriate effectiveness and for the protection of each of these barriers” (Author’s emphasis). It is moreover highly significant that Article 18 of the Convention on Nuclear Safety refers expressly to the concept of defence in depth, as if to remove any doubt as to the scope which the relevant provisions of the Safety Code should already have had in this respect. It will be remembered that at the time of the Chernobyl accident, the question was raised whether the USSR had a duty, under international law, to inform, and whether this duty had been breached: the conclusion, several months later, in September 1986, of the Convention on Early Notification of a Nuclear Accident ended once and for all any uncertainty on this point and confirmed, in our opinion, the existence of an *opinio juris* as to the existence of such an obligation. On this point, see: Alexandre Kiss, “*Activités scientifiques et techniques et devoir d’information en droit international*”, in *Études offertes à C.A. Colliard, Droits et Libertés à la fin du XXème siècle: influence des données économiques et technologiques*, Paris, Pedone, 1984, pp. 273-288. The author had already come to the conclusion (pp. 283-284) that there was an “*obligation to inform in the event of foreseeable damage to the environment of other States*” (unofficial translation) in spite of the reluctance to include such a principle in the Stockholm Declaration of 1972. (Author’s emphasis)
13. “*Generality*” does not mean unanimity (see: Nguyen Quoc Dinh, Patrick Daillier, Alain Pellet, *Droit International Public*, LGDJ, Paris, 5th Edition, 1994, p. 321, para. 215); however, the ICJ interpreted the term as implying very widespread and representative participation, involving those States particularly concerned (the North Sea Continental Shelf cases, ICJ, Rep. 1969, p. 43, para. 74); thus, on the basis of these criteria, it could be argued that since the USSR did not consider it had to comply with such a practice, this would indicate that the conditions required for the creation of a customary rule which could be invoked against any State, did not exist.
14. Of course, general principles of law themselves reflect the existence of an *opinio juris*. As stated by Alfred Verdross “*Les principes généraux de droit dans le système des sources du droit international*”, in *Mélanges Guggenheim, I.U.H.E.I., Genève, 1968, pp. 521-530, see p. 526: “The difference between the creation of a principle of law and that of a customary rule lies therefore in the fact that in the latter case, the opinio juris expresses itself in the constant practice of States, while in the former case, the principle of law is born at the moment when it is expressly recognised by the States within or outside the General Assembly.”* The implementation of such principles can transform them into customary rules (ibid, p. 530); however, “*they do not disappear, but are hidden by customary rules with the same content*” (Nguyen Quoc Dinh, Patrick Daillier, Alain Pellet, op. cit. p. 345, para. 233). At the same time, there is sometimes an inversion of the process of formation of a customary rule itself, the *opinio juris* then being considered as likely to precede State practice (ibid, p. 324, para. 217). From this perspective, it has been acknowledged that through a process of “*consciousness preceding history*”, soft law sometimes expresses an *opinio juris* “*secreting*” a customary rule (René-Jean Dupuy, “*Coutume sage et coutume sauvage*”, in *Mélanges offerts à Charles Rousseau, La communauté internationale*, Pédone, 1974, pp. 75-87, see p. 86): “*The awareness of danger not only precedes effective compliance with the rule but ends up by imposing it on the opinio necessitatis of the world. [...] The rule begins to appear to be a general principle of law but, having regard to the specific field in which it applies, that of protecting ecological balance, it becomes a specialised principle of law requiring compliance with technological standards. It takes over a mission which wise practice cannot perform given its sumptuous slowness; it acts like a “wild” custom, with the same ardour, but in reaction against the barbarity of the technological and industrial world; its wisdom is rooted in the science which denounced the risks involved, its dynamism in the need to act quickly. It is a custom which is both learned and alerting*” (Author’s emphasis). This helps throw light on the scope of the nuclear safety Codes and Guides.

Looked at in the context of rules of international law on environmental protection, and notably the prevention of transfrontier pollution, this statement signifies, at the end of the day, that failure to take account of these elementary rules and statements – the primary purpose of which is to avoid the release of harmful and toxic levels of radioactivity into the atmosphere – can bring into play a State’s international liability.

In fact, the sovereignty of States is subject to the limitations¹⁵ imposed by international law, in particular as regards good neighbour rules.¹⁶ In particular, it is acknowledged that a State should not use its territory, or allow it to be used, in such a way as to prejudice the rights of other States, or harm them¹⁷, otherwise their international liability will be brought into play.¹⁸ Thus, it appears that the non-binding nature of the Safety Codes – to consider only these instruments of *soft law* – is no longer as absolute as those to whom they are addressed, notably States, would like to think.

Indeed, since these Codes contain minimum standards essential to ensure, through appropriate safety rules, national and transnational protection of the environment by preventing the release of harmful and prejudicial radioactivity, it is hard to understand how they could be totally bereft of any binding effect. In fact, a distinction has to be made between the nature of the instrument and its content: the former may be *soft law*, but the latter gives rise to an inevitable technological *de facto* obligation akin to, and meeting true legal obligations such as those to which we have just referred in international law. And it would not seem to us an exaggeration to say that the Chernobyl accident provides an example of this, unfortunately *a contrario* – at least as far as the standard relating to the containment barrier is concerned, to cite only this example.

However, this does not necessarily mean that such rules do without any doubt apply to States, since the existence of treaty provisions in this same field of nuclear safety gives pause for thought as to the relationship between these two types of instrument which are different in nature and, subsequently, in their objectives and scope.

15. Decision of the Franco-Spanish Arbitration Tribunal in the case of the use of the waters of Lake Lanoux, (1958) 62 RGDIP, 99: “*Territorial sovereignty applies in the manner of a presumption. It must bow to all international obligations, but to them only*” (unofficial translation). It should be emphasized that these are not only treaty obligations but also those resulting from customary law and general principles; see on this point: Françoise Duléry, “*L’Affaire du Lac Lanoux*”, (1958) 62 RGDIP, 487.

16. The Corfu Channel case, ICJ, Rep. 1949, Report 4, p. 22.

17. Ibid, which asserts the obligation, for all States, not to allow their territory to be used for measures contrary to the rights of other States; and, previously, the Trail Smelter case, United States of America v. Canada, final decision, 11 March 1941, which constitutes the beginning of international case law on transfrontier pollution, and in which the arbitration tribunal stated: “*As Professor Eagleton puts it (Responsibility of States in International Law, 1928, p. 80): “A State owes at all times a duty to protect other States against injurious acts by individuals from within its jurisdiction.” A great number of such general pronouncements by leading authorities concerning the duty of a State to respect other States and their territory have been presented to the Tribunal. [...] International decisions, in various matters [...] are based on the same general principle*”. The character of fundamental principle of international environmental law has been attached to this rule; see: Alexandre Kiss, *Droit International de l’Environnement*, Pédone, Paris, 1989, p. 30.

18. Decision of the Franco-Spanish Arbitration Tribunal in the case of the use of the waters of Lake Lanoux, op. cit., p. 110, where the Tribunal said that when exercising its powers, a State ran the risk of seeing its international liability engaged if it did not act within the limits of its rights. Clearly, therefore, *a fortiori*, a State will be liable if it did not act in such a way as to ensure that the use of its territory did not prejudice the rights of other States, and its failure to assess the situation correctly will place it in contravention of the rules of international law such as those relating to environmental protection. Can there be any doubt but that safety standards have precisely this primary function to protect the environment against the harmful effects of radioactivity?

One opinion is that “*resort to a non-binding commitment may be analysed as a treaty “substitute”*: while States do agree to commit themselves, they do not wish to – or cannot – do so in a formal or solemn manner, with all the consequences that implies – starting with the bringing into play of their international liability in the event of non-compliance.”¹⁹ In other words, when States agree to regulate a given subject matter by way of treaty rather than continuing to do so by means of *soft law*, this change of instrument should normally lead to increased State commitment, since the State’s international liability will henceforth be brought into play in the event of failure to fulfil a treaty obligation.

But, it seems to us, no such increase in commitment has come about through the 1994 Convention on Nuclear Safety or the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, signed in Vienna in September 1997. Both describe themselves, in their respective Preambles, as “incentive Conventions”²⁰ and are drafted in the form of a series of general statements relating to the main aspects of basic nuclear safety. The former Convention clearly states, moreover, that it “*entails a commitment to the application of fundamental safety principles for nuclear installations rather than of detailed safety standards and that there are internationally formulated safety guidelines which are updated from time to time and so can provide guidance on contemporary means of achieving a high level of safety.*”²¹ Such a statement calls for some observations.

Generally considered as incentive instruments because they “create expectations”²², the safety codes and guides (instruments of *soft law*) to which reference is tacitly made in the above-mentioned provision are simply, here, indicative provisions. At the same time, the treaty mechanism loses its attributes as a medium designed to formulate precise obligations in the international legal system to become no more than a compendium of fundamental principles, while detailed – i.e. precise – rules are excluded from the scope of the commitment undertaken: the Convention itself becomes *soft law*.²³

This process is, admittedly, part of a clear contemporary trend in this area, in which treaties, although retaining their legal status of *hard law*, are transformed into *soft law* by virtue of their content²⁴. Thus, the issue of *soft law* in a treaty context will not affect the binding legal force possessed by all treaties (which can be described as their *formal* binding force). It concerns rather the provisions for, and degree of the limitation of the exercise of State sovereign power. It concerns

19. Dominique Carreau, *Droit International*, Ed. Pédone, Paris, 1988, p. 186.

20. Convention on Nuclear Safety (17 June 1994), INFCIRC/449, 5 July 1994, Preamble, para. (vii); Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radio Waste Management 5 September 1997, Preamble, para. (x).

21. Convention on Nuclear Safety, op. cit., Preamble, para. (viii).

22. Nguyen Quoc Dinh, Patrick Daillier, Alain Pellet, *Droit International Public*, p. 383, para. 259.

23. Ibid, p. 381, para. 258. The authors note that: “*Treaties are mandatory as a source; but they may contain uncertain rules, the application of which is left largely to the discretion of those concerned [...], whereas joint, non-treaty, instruments may contain very detailed “rules”*; such is the case, for example [...] of the guidelines on the transfer of nuclear articles (“London Agreements”, 17 June 1975). All rules which are uncertain either due to their content or to their inclusion in a source which does not create legal obligations (joint non-treaty measures and international organisation recommendations) constitute together what is called soft law”.

24. Ryuichi Ida, “*Formation des normes internationales dans un monde en mutation, Critique de la notion de soft law*”, in Mélanges Michel Virally, *Le droit international au service de la paix, de la justice et du développement*, Pédone, Paris, 1991, pp. 333-340, see p. 335.

rather the *material* binding force resulting from the content of treaty provisions. In other words, a rule of *soft law* in a treaty is one which gives States greater freedom of action or greater powers, whereas treaty *hard law* lays down strict rules as to State behaviour or the result to be achieved.²⁵

It is therefore the nature, or more precisely the quality, of State commitment which is affected. In the case of nuclear safety, signing a treaty appears therefore as a zero sum operation.

First of all, attention may be drawn to the superfluous nature²⁶ of Article 4 of the Convention on Nuclear Safety, and Article 18 of the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management. Both of these Articles provide:

“Each Contracting Party shall take, within the framework of its national law, the legislative, regulatory and administrative measures and other steps necessary for implementing its obligations under this Convention.”

But it has been absolutely clear, since the birth of the League of Nations, that a State “*which has contracted valid international obligations is bound to make in its legislation such modifications as may be necessary to ensure the fulfilment of the obligations undertaken.*”²⁷ Consequently, these identical provisions simply state the existing law, since the obligation they describe “exists even in a treaty’s silence”.²⁸

In fact, though both Conventions maintain nuclear safety in the sphere of *soft law*, there was nonetheless a need to mark the difference between relevant instruments which are not legally binding and the consequences of the treaty approach which calls for obligations of action and means from States. It is, moreover, with regard to the basic elements of the legislative and regulatory framework that the most explicit requirements concerning the setting up of mechanisms to ensure safety are to be found.²⁹ For the rest, the wording used adopts the vaguest and most general language of legal uncertainty: necessary or appropriate steps; adequate financial resources; a sufficient number of qualified staff, without any indication as to what criteria or models are to serve as a reference to determine what is appropriate, adequate or sufficient. Thus, inevitably, the shadow of the safety codes and guides once again looms over the practical content of the obligations contracted by States, even though the latter deliberately avoided any express reference to these instruments. One *soft law* gives rise to another, as in a perpetual motion imposed, despite itself, by the evasiveness of Governments.

25. Ibid, p. 335 (unofficial translation).

26. An opinion shared, in his excellent analysis, by Mr. Pierre Ströhl, “*La Convention sur la sûreté nucléaire*”, (1994) AFDI pp. 804-822, see pp. 811-812.

27. Exchange of Greek and Turkish populations, PCIJ, Advisory Opinion, 21 February 1925, Series B, No. 10, p. 20; subsequently, this same Court completed the rule, asserting that “*it is a general accepted principle of international law that in the relations between Powers who are contracting Parties to a treaty, the provisions of municipal law cannot prevail over those of the treaty*” (PCIJ, Advisory Opinion, 31 July 1930, Series B, No. 17, p. 32). These two Opinions, taken together, mean that States are obliged to ensure that their domestic law complies with their international commitments and that they may not invoke their domestic law in order to avoid fulfilling such commitments. This, moreover, is the meaning of Article 27 of the Vienna Convention on the Law of Treaties (1969) which provides: “*No party may invoke the provisions of its internal law as justification for its failure to perform a treaty*”.

28. Nguyen Quoc Dinh, Patrick Daillier, Alain Pellet, *Droit International Public*, p. 230, para. 152.

29. Articles 7 and 8 of the Convention on Nuclear Safety; Articles 19 and 20 of the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management.

At the end of the day, in the case of both the Conventions and the safety codes and guides, the effective scope of these regulatory instruments and of their content and the meaning of their provisions, are governed by the obligations incumbent in any event on States by virtue of the above-mentioned rules of general international law and indeed of its particular body of law relating to environmental protection, or else of rules protecting persons and property. In this respect, the general principle of law – *sic utere tuo ut alienum non laedas* – according to which land must not be used in such a way as to inflict damage on neighbouring States, is considered as having been confirmed by the development of international environmental law and the law on industrial accidents with transfrontier consequences. In particular, since Principle 21 was adopted by the Stockholm Conference³⁰, States cannot ignore the fact that they have a duty not to harm human health or the environment beyond their national jurisdiction.³¹

Civil nuclear activities, the benefits of which are destined for both the international community and national societies, are inscribed and operate within a social and legal context shaped by axiological considerations translated into rules and norms. That is why, despite the fact that nuclear laws and treaties often represent derogations from the ordinary law, they are not implemented in isolation or in a vacuum but must produce their effects in compliance with other rules of law which, moreover, remain applicable.

This being so, States do not always enjoy the freedom of action they think they do in exercising their sovereignty, a sovereignty which is constrained by the limits imposed upon it by international law. From this same viewpoint, the issues relating to nuclear third party liability also deserve attention.

30. Declaration of 16 June 1972, of the United Nations Conference on the Human Environment, in Claude-Albert Colliard and Aleth Manin, *Droit International et Histoire Diplomatique*, Tome 1: *textes généraux 1971-1973*, Publications de la Sorbonne/Librairie Solyec, Paris, 1975, see pp. 181-186. Principle 21 is drafted as follows: “States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and **the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction**”. (Author’s emphasis). As to the scope of this Principle, A. Kiss (op. cit., pp. 81-82) writes: “Principle 21 of the Stockholm Declaration, a text which is not binding in law, is today generally recognised as having become a rule of international customary law. Indeed, it has been reasserted a number of times in Declarations of the United Nations itself [...], and of other international institutions [...]. Its wording is also used in the Convention on the Law of the Sea [Article 194(2)] and in Article 20 of the ‘Agreement on the Conservation of Nature and Natural Resources’, signed on 9 July 1985 by six South-East Asian States. The Geneva Convention of 13 November 1979 on Long-Range Transboundary Air Pollution sets out Principle 21 of the Stockholm Conference, describing it as an expression of ‘common conviction’.” It may thus be said that both the elements required to constitute international custom are present, on the one hand the repetition of assertions and international practice to which they correspond on the whole, and on the other hand, this “common conviction” expressed on very many occasions, which constitutes the psychological element, the *opinio juris*.

31. Louise de La Fayette, “International Environmental Law and the Problem of Nuclear Safety”, (1993) *Journal of Environmental Law*, Vol. 5, No. 1, pp. 33-69, see p. 39. The author argues, to all intents and purposes, in the same way as Kiss: “Since Principle 21, the “no harm” principle was adopted at the Stockholm Conference in 1972, its message has been repeated in scores of treaties, codes of conducts, decisions, directives and guidelines, in both “hard” and “soft” law instruments. Having recently concluded a number of substantial multilateral conventions on environmental protection, and having commenced negotiations on a fair number of others, states cannot but be aware that they have a duty not to cause harm to human health and the environment beyond the limits of their national jurisdiction.”

II. Nuclear third party liability: a little-known complement to safety

A similar provision in the two safety Conventions concerns the responsibility of the nuclear operator³², thus establishing a link between safety and responsibility. Once again, however, the wording of the obligation of the State is vague, seeming to allow the latter complete discretion as to how it should be fulfilled. But it seems to us that the content of this obligation must inevitably relate to the need to introduce special legislation on the objective nuclear third party liability of the licence holder, imposing on him an obligation of result and not simply of means. Otherwise, we fail to see how the Treaty provision that primary responsibility for safety must lie with the licence holder, can be satisfied, especially if account is taken of the fact that the major objective of the Treaty process is “to achieve and maintain a high level of nuclear safety worldwide.”³³

Moreover, there would be no point in such a provision had there not in fact been major discrepancies in this respect between different countries with a nuclear power programme, especially within Europe. Indeed, until very recently, many countries in Central and Eastern Europe, had not – and some still have not – adopted legislation in the field of nuclear third party liability. Yet the Chernobyl accident clearly showed that the mechanisms of the ordinary law are not able to cope with the compensation and reparation of the damage caused to persons and property by a nuclear accident.³⁴

This link between safety and an appropriate nuclear third party liability system has been confirmed in law by means, paradoxically, of a challenge in the courts to the Canadian Act on Nuclear Civil Liability. In this case, an Ontario environmentalist group, Energy Probe, challenged the constitutionality of the Act on the basis, notably, of Article 7 of the Canadian Charter of Rights and Freedoms which enshrines the right to security of the person.³⁵ The plaintiffs argued, in particular, that the personal safety of members of the public was being endangered due to the level of care imposed: they claimed that the ceiling on liability introduced by the Nuclear Civil Liability Act

32. Article 9 of the Convention on Nuclear Safety provides: “*Each Contracting Party shall ensure that prime responsibility for the safety of a nuclear installation rests with the holder of the relevant licence and shall take the appropriate steps to ensure that each such licence holder meets its responsibility*”; and Article 21 of the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management uses the same drafting with appropriate amendments: “*Each Contracting Party shall ensure that prime responsibility for the safety of spent fuel or radioactive waste management rests with the holder of the relevant licence and shall take the appropriate steps to ensure that each such licence holder meets its responsibility.*” It should be noted that the “prime responsibility of the operator” envisaged here corresponds to the concept of “responsibility” and “liability” which remains in other respects one of the operator’s primary duties. This distinction does not affect however the analysis which we propose to do of all duties which fall on both the State and the operator in respect of liability of any description.

33. Article 1 (i) of each of the Conventions.

34. Soupataeva Olga, “*Nuclear Liability Law in Russia*”, Nuclear Inter Jura “97. The author writes: “*The experience in the elimination of consequences of the Chernobyl catastrophe has clearly proved that nuclear damage of a tremendous scale cannot be compensated for within the framework of traditional standards of civil law, which were designed to compensate for usual risks.*”

35. Article 7 of the Charter of Rights and Freedoms provides: “*Everyone has the right to life, liberty and security of the person and the right not to be deprived thereof except in accordance with the principles of fundamental justice.*”

reduced the nuclear operator's incentive to ensure safety, so that nuclear reactors would be operated less safely, thus increasing the risk for the public of a nuclear accident.³⁶

The judgment handed down, which rejected this argument, reviewed a number of factors, some of which deserve more particular attention here.

The Court first looked at the practices of the regulatory body – the Atomic Energy Control Board (AECB) – noting that the Board delegated on a permanent basis to resident scientists and engineers on-site at nuclear power stations the task of providing continuous surveillance throughout the life-cycle of the plant. The AECB also has a team of experts working in the field of quality assurance.³⁷ Both these control mechanisms operated by the regulatory body meet requirements laid down in the IAEA Codes for nuclear power plant safety. The Code on operation indeed provides: *The operational safety of a nuclear power plant shall be subject to surveillance by a regulatory body independent of the operating organization.*³⁸

Similarly, the safety Code dealing with Governmental Organization specifies that “*regulatory inspections shall be performed in all the areas of regulatory responsibility*”, in particular to ensure “*the effective implementation of the quality assurance programmes*” and, where relevant, to assess and approve changes.³⁹

The Court then addressed the regulatory process, drawing attention to three technological obligations required by the Board of licence holders, namely shutdown systems, an emergency core cooling system, and containment.⁴⁰ These rules are, once again, to be found in an IAEA Code, the one dealing with nuclear power plant design.⁴¹ The judgment points out that important safety issues are identified during the licensing procedure, and that licences are only granted once these have been resolved.⁴² It also notes that fundamental rules regulate the safe operation of a reactor, with the AECB requiring, in addition, an operator training programme approved by it and including exams administered under its control.⁴³ The Court also took account of the safety inspections carried out by resident inspectors from the regulatory body, the quality assurance constituting an integral part of an installation's safety, the conditions in which equipment is maintained and checked, the requirements imposed on the licence holder to report all incidents and operating data, and the annual review by the Board's staff of a nuclear power plant's safety performance.⁴⁴

36. Energy Probe et al. v. Attorney General of Canada (1994) 17 O.R. (3d) 717, Ontario Court (General Division), Blenus Wright J., pp. 731-732.

37. Ibid, p. 735.

38. Code on the Safety of Nuclear Power Plants: Operation, op. cit., para. 202.

39. Code on the Safety of Nuclear Power Plants: Governmental Organization, op. cit., para. 106 (3) and (4).

40. Energy Probe v. Canada, op. cit., p. 736.

41. Code on the Safety of Nuclear Power Plants: Design, op. cit., Chapters 5, 7 and 9.

42. Energy Probe v. Canada, op. cit., p. 737.

43. Ibid.

44. Ibid, pp. 737-739.

Starting from the hypothesis that a ceiling on the operator's financial liability would be likely to reduce the level of safety⁴⁵, the Court, by a detailed examination of the regulatory process, arrived at the contrary conclusion, finding that the relevant safety mechanisms led to an adequate level of operator liability, notwithstanding the financial provisions in question.

In fact, it is the channelling of liability to the operator which appears as the keystone of reliable safety. And this channelling is twofold: primary technology responsibility of the operator for safety, in accordance with the meaning of the express requirement of the two Conventions in this field; and third party legal liability, which is both exclusive and objective, of the operator, obliging him to compensate all prejudice caused by failure on his part leading to an accident.

It thus becomes very difficult for States to try to separate their obligation to introduce the regulatory mechanisms to induce licence holders to ensure the required level of safety in their nuclear installations from their parallel obligation to adopt special legislation on nuclear third party liability. For, to quote a highly relevant passage, "Sanctioning the person liable helps: to compensate, as far as is possible, for the shortcomings of the safety system; to constitute, at the same time, a means of promoting the effectiveness of this system. There is obviously a close link between compensation and prevention", the former "by its dissuasive nature" helping to make firms "pay closer attention to safety and the prevention of accidents."⁴⁶

The corollary of reliable safety, an adequate nuclear third party liability regime, is also necessary as an essential component of the legal system within which the State and the law fulfil their function of regulators of social behaviour.⁴⁷ This is an inevitable consequence of the nature of the technological risk generated by civil nuclear activities, and the performance of their legislative and regulatory obligations by the public authorities of the democratic countries has made it possible to build up a body of law meeting these twin necessities of safety and liability. Thus, the victims of accidents such as those of Three Mile Island, Goiania and Forbach were able to claim compensation through the courts for the prejudice suffered and also, in the latter two cases, the punishment of those whose negligence had caused the damage.⁴⁸ The accident at Chernobyl, on the other hand, required

45. Ibid, pp. 732-733. Judge Wright held: "As a general proposition it may be that less liability results in less incentives for safety. But, that proposition depends on the activity involved and the surrounding circumstances. [...] In the case of nuclear plants, consideration must be given to the incentives of operators and the role of the regulator in the safe operation of nuclear reactors. [...] Of prime importance is the role of the AECB in regulating safe operation."

46. Marie-Claude Boehler, "Reflections on Liability and Radiological or Nuclear Accidents: the Accidents at Goiania, Forbach, Three Mile Island and Chernobyl", Nuclear Law Bulletin No. 59 (June 1997), pp. 13-26, see p. 13.

47. Georges Burdeau, *L'État, Seuil*, Paris, 1970. The author develops the theme "The State as a regulator of order and movement" and notes (pp. 110-111) in this connection: "[...] the State is the only power capable of regulating competition among the different levels of authority. If these were allowed to struggle against each other without any constraint, this would destroy society, and the same result would be achieved if one of them succeeded in reducing the others to silence since society would then languish in deadly immobility". [Unofficial translation] Paul Amselik, "Le droit, technique de direction publique des conduites humaines." 1989-10, *Droits*, pp. 7-10 writes (p. 10): "What characterises and distinguishes legal rules from other types of ethical rules, is the particularity of their vocation as instruments: legal rules are tools for the public administration of human conduct, tools of command or public governance. For man is a social animal living in peoples or communities which, thus, require co-ordination, i.e. a synchronised regulation of individual actions, a tuning of communal life. Everywhere, history shows the existence of procedures designed to satisfy this need, notably in the form of the establishment of public powers or authorities..." [unofficial translation].

48. Marie-Claude Boehler, op. cit.

the *ex post facto* adoption of special legislation to compensate the victims, and this meant that the process was affected by political rather than legal considerations.⁴⁹

However, the particular function of the Rule of law is to protect citizens against political whims by making those in power also subject to the ordinary law⁵⁰ so as to protect citizens from the arbitrary or an abuse of power on the part of State authorities of whatever level:

“Indeed, the Rule of law concept is the translation in legal terms of the idea of the ethical primacy of the individual vis-à-vis authority: the State is only legitimate inasmuch as it helps individuals achieve fulfilment. In other words, the Rule of law is the form given to the law by modern individualistic and liberal societies. It represents the retreat of the State vis-à-vis human rights, now perceived as effective legal categories.”⁵¹

From this standpoint, the existence of appropriate nuclear third party liability legislation also meets the requirements inherent in any democracy regarding the respect of individual rights as stated in both the domestic and international legal systems. That is why a link may be established between liability, care in the sphere of safety and the right to security. In this respect, it is noteworthy that the Canadian judge in the above-mentioned Energy Probe case did not deny the existence of this three-sided relationship: he simply verified the claim of the plaintiffs on the basis of an analysis of the regulatory and effective conditions of safety. Indeed, the very fact of conducting this analysis confirms the relevance of the technical and legal triangle as a foundation of nuclear law.

Transposed to the European legal context arising from the human dimension of the Conference on Security and Co-operation in Europe – CSCE – with the central role given by the Charter of Paris to the trilogy “Human Rights, Democracy and Rule of Law”⁵² – the triad “liability, safety, security” in the nuclear field is thus also inscribed within a regional sphere engaged in the construction of a legal order based, in both its internal and external aspects, on shared values used to shape laws and regulations.

It therefore seems to us that States cannot avoid adopting legal instruments meeting the guarantees sought by citizens through international undertakings which, even though contained in instruments of soft law⁵³, nevertheless call for implementation in good faith.⁵⁴ And with this in view,

49. Ibid., pp. 25-28.

50. Olivier Beaud, “*Ouverture: L’honneur perdu de l’État*”, (1992-15) *Droits*, 3-10. The author states (p. 9): “*In its most widely accepted version, the theory of the Rule of law implies a limitation on the State through rules of law, and consequently a self-limitation by the State when it creates such rules*” [unofficial translation].

51. Ibid., pp. 7-8.

52. Charter of Paris for a New Europe (1990) 21 November 1990, in Emmanuel Decaux, *Sécurité et coopération en Europe*, La Documentation Française, Paris, 1992, pp. 285-294. The part of the Charter of Paris relevant to our argument reads as follows: “*Human rights and fundamental freedoms are the birthright of all human beings, are inalienable and are guaranteed by law. Their protection and promotion is the first responsibility of government. [...] Democratic government is based on the will of the people [...]. Democracy has as its foundation respect for the human person and the Rule of law*”.

53. This applies to the Charter of Paris.

54. Nguyen Quoc Dinh, Patrick Daillier, Alain Pellet, *Droit International Public*, p. 383, para. 259: “*Though not bound by their provisions, States are bound by the principle of good faith; failure to comply with them does not, ipso facto, give rise to liability but a non-treaty agreement has given rise to expectations which may allow the partner(s) concerned to invoke the principle of estoppel*” [unofficial translation].

the introduction of reliable and appropriate rules on nuclear safety and liability helps fulfil the undertaking to protect citizens and their rights within the State. In other words, for the countries of Central and Eastern Europe, it constitutes a capital element in the process of transition towards democracy, understood not only through the mechanism of free elections but in its full and entire meaning, incorporating the Rule of law and individual rights.

The question remains whether the States concerned, and their constituent bodies, can take as long as they like to introduce the relevant legislative and regulatory measures. It is true that the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management recognises, in its Preamble, the special situation “of States with economies in transition”⁵⁵, but that does not mean that such economic considerations can justify any delay in introducing legal provisions on nuclear third party liability. In this respect, it should be remembered that the rule of good faith in international relations concerns the State in all its institutions, including in particular the legislative authority, which must act with due diligence in this field. For, more than ten years after the Chernobyl accident, and nearly nine after the fall of the Berlin Wall, it is difficult to understand why such legislation has not yet been brought completely into line with that of the countries of Western Europe and with the Paris and Vienna Conventions, at least as far as the objective liability of the operator is concerned, and its channelling – whether legal or economic – exclusively to it.

For, through specific legislative and treaty provisions in the field of nuclear third party liability, an *opinio juris sive necessitatis* has been expressed in its precise meaning of a social need shared by all components of the international community⁵⁶; and the accession of nearly all the countries of Eastern Europe to the 1963 Vienna Convention confirms this general conviction of the existence of fundamental international rules of law or principles in the field of nuclear third party liability, calling for an alignment of basic national provisions in this respect.

Thus, the continuing failure of a State as important as the Russian Federation to bring its legislation properly into line with this legal approach which is now confirmed as regards the main features of a suitable regime of nuclear third party liability, cannot affect the existence of such an *opinio juris*, inasmuch as the Declaration issued following the Moscow Summit of 1996 on nuclear safety and security recognises, with regard to nuclear liability, that “*The essential principles in this area are the exclusive and strict liability of the operator of the nuclear installation and ensuring needed financial security for adequate compensation.*” The same Declaration affirms: *It is essential that countries with nuclear installation that have not yet done so establish an effective regime for liability for nuclear damage corresponding to these principles.*⁵⁷

Having regard to such an *opinio juris* relating to the international principles which should regulate nuclear third party liability and the general practice related thereto, it may be said there has been a possible crystallization of a customary rule and, consequently, an obligation under international law may be postulated to comply with this set of rules constituting the basic requirements of an appropriate legal system of nuclear third party liability. Once again, this means that States which have not yet adopted special legislation in this respect are less free to delay doing so

55. Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, op. cit., Preamble, para. (x).

56. Dominique Carreau, op. cit., pp. 245-246.

57. Extracts from the report on the Seminar on Nuclear Liability and Insurance Issues in Russia, NEA Newsletter, Spring 1997, Vol. 15 n°1, pp.18-21.

than they might be led to think by their treaty commitments alone, since in the relations between international and domestic law, the obligation to bring the latter into line with the former concerns the whole range of the international normative spectrum.⁵⁸

In other words, the introduction of a nuclear third party liability regime based on the exclusive channelling of objective liability to the operator and including a suitable financial mechanism for the compensation of damage is based on a triad of international obligations: those linking responsibility to reliable safety; those resulting from the Rule of law and its corollary, the primacy of the law by virtue of which governments have to take heed of individual rights such that, in the case which concerns us, citizens have a right to the security of their person and to a healthy environment⁵⁹; and lastly, those resulting from international custom as seen in the combination of an *opinio juris* with a widely confirmed practice in the field of nuclear third party liability.

Conclusion

The Convention on Nuclear Safety has been described as being pragmatic (convention “du possible”⁶⁰) having regard, in particular, to the complex structure of different types of expertise which have to be brought together to control the radioactive risk, to the diversity of the technical and scientific branches involved at national level and to the risks inherent in the “residual uncertainties of knowledge” thus restricting “the modes of action of the law” to statements of principles and objectives of safety, global resources and criteria, and also “essential specifications of the system”.⁶¹

However, the “possible” is also the extent to which States really want to bind themselves by treaty. From this standpoint, the problem raised by the texts of the two safety Conventions lies not so much in the fact that they only lay down general rules, but has more to do with the dissolution of State obligations in the astonishing concept of “incentive Convention”. And the main question which then arises is whether the State can be held liable if it fails to act in accordance with the treaty’s provisions. Admittedly, each of the Conventions includes a provision on procedures and arrangements for the “resolution of disagreements”⁶² concerning its interpretation or application. However, the wording used seems to rule out any genuine calling into question of the international liability of the State which has failed to act. Moreover, how can such failure be established? What criteria or models

58. The need to apply international custom in internal law is no longer open to doubt, and “*the traditional rule of Anglo-Saxon origin, international law is part of the law of the land, is universally accepted*”, Nguyen Quoc Dinh, Patrick Daillier, Alain Pellet, *Droit International Public*, p. 337, para. 226. Furthermore, according to the objectivist theory that international law takes precedence over internal law, “*any rule between societies takes precedence over any internal rule in contradiction with it, amending or repealing it ipso facto*” Georges Scelle quoted by Nguyen Quoc Dinh, Patrick Daillier, Alain Pellet, *Droit International Public*, p. 96, para. 49.

59. Stockholm Declaration, 1972, op. cit., Principle 1: “*Man has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being...*”.

60. Pierre Strohl, op. cit., p. 810.

61. Ibid., p. 807.

62. Article 29 of the Convention on Nuclear Safety and Article 38 of the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management. These provisions both stipulate: “*In the event of a disagreement between two or more Contracting Parties concerning the interpretation or application of this Convention, the Contracting Parties shall consult within the framework of a meeting of the Contracting Parties with a view to resolving the disagreement*”. Article 38 of the Joint Convention continues: “*In the event that the consultations prove unproductive, recourse can be made to the mediation, conciliation and arbitration mechanisms provided for in international law, including the rules and practices prevailing within the IAEA*”.

can be used as a yardstick when it is the State which remains the judge of what is desirable and how it should be carried out.

It is, naturally, essential that the operator or licence holder be subject to a regime of objective and exclusive liability. It is just as vital for a State to know that its international liability can be invoked for breach of a rule of international law or negligence in actually implementing this regime, or doing so effectively. In this respect, the indulgence shown to the USSR by the countries of Western Europe directly affected by the Chernobyl accident is certainly not a model to be followed. Indeed it may be wondered, given the Russian Federation's persistent delay in adopting legislation on nuclear third party liability and on safety, whether such indulgence has not in fact been counterproductive.

It is not enough for the countries of Western Europe or, more broadly, the OECD financially and technically to help improve safety levels and procedures in the nuclear power plants of the various countries of Central and Eastern Europe. The full weight of their contribution has also to be used to obtain, in return, the adoption of relevant laws and regulations, not at all to interfere in the internal affairs of other countries but because all the States in question have agreed to construct a European community based on the Rule of law and the respect of its citizens.

Australia

Federal Court Decision on Jabiluka Uranium Mine

On 11 February 1998 the Federal Court of Australia upheld the validity of the mining lease held by Energy Resources of Australia Ltd. (ERA) over the Jabiluka uranium deposit. Justice Sackville handed down a judgement in proceedings commenced on behalf of a senior Aboriginal Traditional Owner of the Jabiluka region, situated on the edge of the Kakadu national park in the Northern Territory.

The application made on 11 June 1997 was for orders to prevent the Minister for Resources and Energy from granting approval for the export of uranium by ERA obtained by mining carried out on the Jabiluka project area. The application also sought a declaration that the Commonwealth was the owner of the uranium and had granted no valid interest in the uranium to any other person.

The Federal Court rejected the argument that the mineral lease issued by the Northern Territory in 1982 was invalid. In doing so it cleared the way for the development of the mine. ERA announced that it will continue its consultations with the Northern Land Council, who act on behalf of the Traditional Owners, with respect to the Jabiluka proposal.

Germany

*New Decisions on the Mülheim-Kärlich and Krümmel Nuclear Power Plants**

Judgement of the Federal Administrative Court, of 14 January 1998, concerning the Mülheim-Kärlich Nuclear Power Plant

The Federal Administrative Court has once again decided on the legality of RWE Energie AG's first partial construction licence to build a nuclear power plant in Mülheim-Kärlich. In 1993, the Federal Administrative Court had reversed a judgement of the Superior Administrative Court of Rheinland-Pfalz¹ which had granted a rescission action against the licence, and referred the matter back to that court.² In 1995, the Superior Administrative Court of Rheinland-Pfalz again decided that the licence was invalid, but on different grounds.³ This time the appeal of RWE Energie AG was

* This note has kindly been prepared by Dr. Herbert Posser, a partner in the law firm Bruckhaus Westrick Heller Löber. The facts contained and ideas expressed in this note are the responsibility of the author alone.

1. DVBl. 1992, 57 *et seq.*

2. BVerwGE 92, 185 *et seq.*

3. ET 1996, 257 *et seq.*

rejected by the Federal Administrative Court. The Superior Administrative Court had argued that the Licensing Authority had wrongfully assumed that state-of-the-art precautionary measures against damages had been taken (Section 7 (2) 3, Atomic Energy Act), because the risks in case of an earthquake had not been sufficiently evaluated. In order to grant the license, the Licensing Authority was allowed to resort to the corresponding rules of the Nuclear Engineering Committee as a basis for making a proper assessment of these risks. However, the application of the rules of this Committee would have required concrete investigations and methodical considerations with regard to the case at hand. Only such individual investigations would have enabled the Licensing Authority to lay down the appropriate safety precautions against earthquakes. In the case at hand, the Licensing Authority had failed to make the required individual case investigations.

The Federal Administrative Court considered the judgement of the Superior Administrative Court, to the effect that the official database was insufficient, to be a statement of fact. It considered itself to be bound by it, because no objection had been made on grounds of procedural error against the assessment of the evidence by the lower court. This approach led to the illegality of the licence contested because it is an established practice of the Federal Administrative Court that a lack of investigation and evaluation will result in the illegality of a nuclear energy activity licence, regardless of whether this lack had a probative influence on the decision of the Licensing Authority in the actual case. The Federal Administrative Court holds the view that under nuclear energy law, it must not replace evaluations of the Licensing Authority by evaluations of its own.⁴

The Federal Administrative Court, in this decision, examined whether a licence under nuclear legislation can be set aside if there is any possibility that matters not clarified by the Licensing Authority had an impact on their licensing decision or – as RWE Energie AG had argued – only if the Court sees the *concrete* possibility that the licensing decision is influenced by the lack of investigation or evaluation. RWE Energie AG's conception of legality was rejected by the judges for lack of a legal basis. The Federal Administrative Court stated that in nuclear energy law, in contrast to most fields of planning law, the principle that the Court must not interfere with official risk evaluations is still valid. The result would be different only if the lack of investigation and evaluation had *obviously* not influenced the decision. According to the Federal Administrative Court, the interests of the Licensing Authority and the operator of the power plant to maintain the licence are ensured by the Licensing Authority's right to remedy a lack of investigation and evaluation up until the last hearing of the Court. However, the Licensing Authority failed to do so in this case.

It has to be stated that the Federal Administrative Court based its judgement on precedents, so the decision should come as no surprise. Nevertheless, the Court missed a good opportunity to alter its concept of legality. Once again, the risk evaluation capacity granted to the Licensing Authority turned out to be a curse in the legal proceedings, due to the complexity of the matter. Almost any lack of investigation and evaluation that is assumed by the Court to have taken place, will result in the cancellation of the licence. Even if one shares the legal opinion that the Court may not replace evaluations of the Licensing Authority by evaluations of its own, the Court could, nevertheless, decide upon the impact of a lack of investigation/evaluation upon the decision of the Licensing Authority. If the Court has the right to judge whether there is a lack of investigation/evaluation, it follows that it should be given the right to decide whether this lack has influenced the decision of the Licensing Authority.

4. BVerwGE 78, 177 (180 f.); 80, 207 (217); 101, 347 (363).

Last, but not least, it is incomprehensible from a legal point of view that the Licensing Authority did not make supplementary investigations and evaluations to remedy the lack of investigation held to exist by the Superior Administrative Court. There was enough time to do this during the appeal proceedings, which lasted more than two years. The reason for this behaviour is the political decision to opt out of nuclear energy. The failure to act properly may, again, result in government liability.

Decision of the Superior Administrative Court of Schleswig-Holstein, of 7 November 1996, Regarding the Krümmel Nuclear Power Plant

In this case, the Superior Administrative Court of Schleswig-Holstein took up matters considered by the Federal Administrative Court concerning the legality of the operation of the Krümmel nuclear power plant.⁵ The Federal Administrative Court had decided in the principal proceedings that, in issuing an amended licence, the question of whether state-of-the-art precautionary measures have been taken with regard to the radiological effects of the entire nuclear power plant in modified form⁶ must be considered. In this case, it was questionable whether the Licensing Authority had met this requirement when it issued the amended licence, in view of the number of leukaemia cases in the area surrounding the plant. The principal proceedings had been referred back to the Superior Administrative Court of Schleswig-Holstein by the Federal Administrative Court.

With reference to the new decision of the Federal Administrative Court, people living near the plant had demanded that, in contrast to an earlier decision made by the Superior Administrative Court, their action against the approval of the operation of the plant should have the effect of suspending such operation until a decision in the principle proceedings was rendered. Again, these applications were rejected.

The Superior Administrative Court made it quite plain that the amended licence was lawful. In particular, the Superior Administrative Court held the view that the limiting values under the Radiological Protection Ordinance kept by the Krümmel nuclear power plant are state-of-the-art. It stated that these dose limiting values are significantly lower than the values which are internationally recognised. The Court said that the competent Federal Ministry of the Environment did not ignore, but sufficiently examined, the increase in leukaemia cases; there was no evidence of a connection between the operation of the nuclear power plant and cancer cases. It was also the opinion of the Court that the Licensing Authority had sufficiently investigated and evaluated the increase in leukaemia cases. A large number of examinations were initiated by the Authority. The criticism relating to the examinations was itself subject to evaluation, and it was found that such criticism did not constitute scientific evidence to confirm the suspicion of the applicants that the Krümmel nuclear power plant was responsible for the cancer cases.

5. ET 1997, P. 178 *et seq* = RdE 1997, P.106 *et seq*.

6. BVerwGE 101, 347 *et seq*.

Hungary

Appeal Court Decision in favour of complainant concerning Chernobyl-related damage

The Appeal Court of Budapest has finally handed down judgement in a six-year lawsuit between the widow of a truck driver, who claimed that her husband's sojourn into Ukraine just three months after the accident at the Chernobyl Nuclear Power Plant had directly contributed to his subsequent death, and the transport firm which had employed him at that time. The driver had been sent to Kiev in July 1986 to make a delivery. Upon leaving the country five days later, his vehicle had been carefully washed at the border crossing although he himself had not been subject to any health or contamination monitoring measures. The man remained in good health for several years, but became ill in 1991 and died the following year from an auto-immune disease and cardio-respiratory problems.

In the early stages of the lawsuit, the Court of first instance (the labour court) had requested expert advice on the issue from the Director General of the Frédéric Joliot-Curie National Research Institute for Radiobiology and Radiohygiene (OSSKI). His findings, which were based upon data not only produced by OSSKI itself but received from a wide variety of competent international bodies in the field, concluded that it was highly unlikely that the driver's clinical condition and the pathological damage observed were due to the radiation exposure he received during his trip to Ukraine. According to this expert's assessment, the excess radiation dose received by the driver during the period he spent in Ukraine was approximately 0.1 mSv, this being near to 1/25 of the average dose received each year by Hungarian citizens from natural radiation sources. The Forensic Committee of the Scientific Council on Health, which is part of the Hungarian Ministry of Welfare, supported these conclusions.

However, different evidence was offered by a radiological expert from the Radiological Clinic of the Semmelweis Medical University in Budapest. According to this expert, on the basis of current radiobiological and radiohaematological knowledge, the driver's auto-immune disease could certainly be attributed to his having worked in Kiev and its environs for the length of time he actually did and under the ecological conditions then existent. "Since he had been clinically healthy before travelling abroad, the physical and eco-biological evidence of the contraction of his illness cannot be disputed. The Chernobyl-origin of his disease is, therefore, accepted." This opinion was endorsed, without qualification or reservation, by the University's Institute of Forensic Medicine.

The Appeal Court found that there was an unquestionable causal relationship between the disease and subsequent death of the driver and his stay in Ukraine during July 1986, and that his employer was liable therefor. There was no court hearing and the ruling was based only upon an examination of the available documentation. The decision of the Appeal Court is final, however, according to Hungarian law, there is a possibility to submit the case to the Supreme Court. It should not be excluded that the respondent (the company which is required to pay compensation of approx. 10 000 US\$ to the widow) will continue the case, since other drivers and employees of the same company died between 1991 and 1996. However, until now the widows of these drivers had refrained from introducing a lawsuit.

United States

*Department of Energy's Responsibility for Disposal of Spent Fuel**

The U.S. Court of Appeals for the District of Columbia Circuit issued an opinion on 14 November 1997, in *Northern States Power v. U.S. Department of Energy*, 128 F.3d 754 (D.C. Cir. 1997), holding that the Standard Contract between the Department of Energy and the nuclear utilities provides a potentially adequate remedy if the Department failed to perform its disposal obligations by the statutory deadline of 31 January 1998, but specifically precluded the Department from recourse to “unavoidable delays” provisions or any construction of the contract that would excuse its performance on the ground that it has not yet established a permanent repository or interim storage program. Immediately after the statutory date of 31 January 1998 for waste acceptance, the utilities and various States filed suit for prompt enforcement of the Court's 1997 mandate in *Northern States*. Although the 1998 waste acceptance issue remains in litigation, the following is a brief *aperçu* of the situation and of the arguments advanced.

As background, on 23 July 1996, the U.S. Court of Appeals for the District of Columbia Circuit held in *Indiana Michigan Power Co. v. U.S. Department of Energy*, 88 F.3d 1272 (D.C. Cir. 1996) that the Nuclear Waste Policy Act of 1982, as amended (NWPA)¹ created an unconditional obligation that the Department commence disposing of the utilities' spent nuclear fuel no later than 31 January 1998, in return for payment of fees under the Standard Contract.² The Department had argued that it did not have an unconditional statutory or contractual obligation to accept spent nuclear fuel by 31 January 1998, in the absence of a repository or interim storage facility constructed and licensed under the NWPA.

On 31 January 1997, 36 utility contract holders and 33 States filed petitions in *Northern States Power Co. et al. v. U.S. Department of Energy*, again in the U. S. Court of Appeals for the District of Columbia Circuit, for “enforcement” of the 1996 *Indiana Michigan* decision. They asserted that the anticipated inability of the Department to meet the 31 January 1998 deadline constituted an anticipatory breach of provisions of the NWPA and their contracts. They also contended that they should be entitled to suspend their payment of fees into the Nuclear Waste Fund and that these fees should be placed in escrow until the Department commences disposal pursuant to the Standard Contract.

On 14 November 1997, the U.S. Court of Appeals for the District of Columbia Circuit issued its decision in *Northern States*, concluding that the “remedial scheme of the Standard Contract

* This note has kindly been prepared by Sophia Angelini, Attorney Adviser in the Office of General Counsel for Civilian Nuclear Programmes, U.S. Department of Energy. The facts contained and ideas expressed in this note are the responsibility of the author alone. For a review of the draft legislation intended to address the problems discussed in this case note, see the article by the same author in Nuclear Law Bulletin No. 60, entitled “*United States Nuclear Waste Policy Act*”.

1. The Nuclear Waste Policy Act of 1982, as amended, appears at 42 United States Code 10101 *et seq.*
2. The nuclear utilities in the United States are all signatories to the Standard Contract for Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste which appears at 10 Code of Federal Regulations Part 961. Article IX of the Standard Contract entitled “Delays” contains provisions governing “A. Unavoidable Delays by Purchaser or DOE” and “B. Avoidable Delays by Purchaser or DOE.”

offers a potentially adequate remedy” for the Department's anticipated failure to meet the 1998 deadline and holding that the petitioners must pursue the remedies provided in the Standard Contract. However, in ordering the parties to proceed with contractual remedies, the Court specifically precluded the Department of Energy from “concluding that its delay was unavoidable on the ground that it has not yet prepared a permanent repository or that it has no authority to provide storage in the interim.” Article IX of the Standard Contract, entitled “Delays”, provides for an equitable adjustment of charges and schedules if a party's delay is avoidable “to reflect any estimated additional costs incurred by the party not responsible for or contributing to the delay.”

On 10 December 1997, consistent with the Court decision, the Department issued letters to the contract holders withdrawing its previously issued determination, of a *force majeure* nature, that the Department's delay had been “unavoidable”.³ However, on 29 December 1997, the Department filed a petition for rehearing by the Court asserting, *inter alia*, that:

“The remedy provided by the contract for avoidable delay is for “charges and schedules specified by this contract [to] be equitably adjusted to reflect any estimated additional costs incurred by the party not responsible for or contributing to the delay.” Art. IX.B. Ascertaining what “additional costs” will be incurred due to DOE's delay is an intensely fact-specific inquiry unique to each individual contract holder. Depending upon factors such as a contract holder's particular delivery commitment schedule (see Art. V), inventory of spent fuel, and storage capabilities, the “additional costs incurred” by different utilities will vary widely. Accordingly, treating DOE's failure to meet the 1998 deadline as an avoidable delay would result in different contract holders receiving different equitable adjustments to their fees.

It is predictable that many, if not most, and perhaps all, contract holders will be dissatisfied by this remedy because DOE is required by the NWPA to review fees annually and, as necessary, propose adjustments that will “insure full cost recovery” for the repository program (42 U.S.C. 10222(a)(4)), any substantial downward adjustments in the fees paid by some contract holders in later years may well force offsetting upward adjustments in the fees paid by other contract holders.”

Lake Barrett, Director of the Office of Civilian Radioactive Waste Management, issued a statement on 30 January 1998, confirming that the United States remains committed to permanent disposal and that this policy is not only essential for commercial spent fuel, but also for cleanup of the nuclear weapons complex, as well as the United States' international nonproliferation policy. He stated that the Standard Contract's delays clause remains the appropriate means to address the Department's delay. He noted that the delay does not create a safety problem and that the utilities can

3. The Contracting Officer's “Preliminary Determination that the Department of Energy's Delay in Beginning Spent Fuel Disposal Was Unavoidable”, June 3, 1997. The determination contended that the delay in disposing of the contract holders' spent fuel was an “unavoidable delay”, as defined in Article IX of the Standard Contract, and that: “Article IX provides, in brief that neither the Government nor the contract holder shall be liable for damages caused by failure to perform its obligations if such failure arises out of causes beyond the control and without the fault or negligence of the party failing to perform...”

continue to safely store spent nuclear fuel at their reactor sites, a fact which has been confirmed by the Nuclear Regulatory Commission.⁴

The Nuclear Energy Institute (NEI)⁵ reports that 27 reactors in the United States are expected to exhaust existing on-site fuel storage capacity by 1998, with 80 reactors expected to exhaust such capacity by 2010. NEI estimates that if the Department of Energy does not accept fuel until the year 2030, costs to the utilities for used fuel management could range from \$34 billion to a high estimate of \$56 billion.⁶

The Department of Energy's speculation that it might be obliged under the NWPA's "full cost recovery" provisions to propose offsetting fee adjustments (i.e. to charge higher disposal fees to the utilities), if equitable adjustments of fees under the Standard Contract were to substantially impact the Nuclear Waste Fund, apparently struck a neuralgic note. On 2 February 1998, a group including 35 States filed a motion in the United States Court of Appeals for the District of Columbia Circuit for prompt enforcement of the Court's decisions in the *Indiana Michigan* and *Northern States* cases. The State petitioners asserted that the Department "views the Nuclear Waste Fund (NWF) and prospective fee adjustments and increases as a source of funds to pay all costs or damages resulting from its refusal to comply with the NWPA and this Court's decisions." The motion seeks an order preventing future fee adjustments that might be necessary to "insure full cost recovery" under the NWPA.⁷ It also seeks an order requiring that performance commence under the Standard Contract before the Department accepts any further shipments of foreign spent fuel.

4. "Statement by Lake Barrett, Acting Director of the Office of Civilian Radioactive Waste Management on the DOE Obligation to Accept Waste on 31 January 1998", DOE Press Release (R-98-007) 30 January 1998. He states regarding the issue of interim storage by the Department, in the absence of a permanent repository:

"We understand the frustration of the utilities that the Department is not able to begin spent fuel acceptance this year. But, we believe it would be a mistake to divert our resources and efforts to a temporary "fix", which could undermine our focus on obtaining a permanent solution, and burden future generations. When the Department of Energy entered into contracts with the utilities in 1983, both sides recognized the uncertainties of a complex program expected to last decades. As a result, the contracts contained provisions to address delays. We continue to believe that the contracts are the appropriate means to address the delay. Early last year, Secretary Pena met with nuclear utility executives to work out some accommodation to address our anticipated delay, including offers of compensation. Unfortunately, the utilities were for the most part disinterested and went back to court. Today, we remain willing to work with the contract holders to address any hardships associated with this delay, and, of course, will comply with any applicable court order. It is important to emphasize that the Department's delay does not create a safety problem. While storing spent nuclear fuel may entail a cost and maintenance burden to some utilities that they would like to avoid, until a facility constructed under the Nuclear Waste Policy Act can be developed to accept spent nuclear fuel, utilities can continue to safely store spent nuclear fuel safely at their reactor sites. The Nuclear Regulatory Commission, in its most recent Waste Confidence Proceeding, affirmed this belief."

5. NEI represents all of the nuclear utilities in the United States, as well as nuclear vendors, radiopharmaceutical companies and universities with nuclear programs. Information concerning NEI is available on the World Wide Web at: <http://www.nei.org> The web site is updated periodically.

6. "Congress Faces \$56 Billion Liability for Default on Nuclear Fuel Storage Contracts", *NEI Fact Sheet* (1998). NEI argues that without a federal storage facility, nuclear power plants would be forced to house used fuel in stainless steel containers at plant sites in 34 states. According to NEI, building such on-site storage systems beginning in 1998 through 2030 would cost \$1.2 billion, or an average of \$75,000 per metric ton of uranium. That cost would include design, engineering, quality assurance, license, construction and operation of the on-site facility. (Also, Elaine Hiruo, "Critics Say that Financial Liability, Not Spent Fuel, Moved on January 31", *Nuclear Fuel*, February 9, 1998, p. 1.)

7. 42 U.S.C. 10222(a)(4).

On 18 February 1998, the Yankee Atomic Electric Company, which owns a shut-down nuclear power plant, filed a complaint in the U.S. Court of Federal Claims (the court with jurisdiction over government contracts) claiming damages in the amount of \$70 million associated with extended storage of its spent fuel-consisting of 127 metric tons currently stored onsite at the Yankee Rowe nuclear plant in Massachusetts.⁸ Yankee Atomic argued that it has no adequate remedy under the Standard Contract, such as an equitable adjustment of charges and schedules, having paid in full all required spent fuel disposal fees (reportedly \$22.5 million) and having permanently ceased operations in 1992. It asserted that, without removal of its spent fuel, it cannot complete the decommissioning process which is 80% complete, that it cannot obtain substitute performance of the government's obligations, and that its plant site will, in effect, be converted into a nuclear waste storage facility.⁹ Yankee Atomic noted that the Department currently accepts and stores spent fuel from 41 foreign countries.

Thereafter, on 19 February 1998, 41 utilities filed motions to enforce the Court's mandate in *Northern States* and prohibit the Department of Energy from using the Nuclear Waste Fund as a "damages fund" to pay for the utilities' additional costs or from increasing fees that the utilities pay into the Fund. The lawsuit further seeks an order: (1) compelling the Department to submit, within 30 days, a program with milestones to dispose of the Standard Contract holders' spent fuel; (2) relieving the Standard Contract signatories from their obligation to pay fees and authorizing them to place fees in escrow until the Department commences disposal; and (3) prohibiting the Department from imposing any interest or penalty as a result of any Standard Contract holder's suspension of payments into the Fund.

The Department of Energy's answers to the arguments above have included the following:

1. That the 1997 *Northern States* decision held that the contracts provide a "potentially adequate remedy" and therefore directed that the utilities exhaust their remedies under the Standard Contract.¹⁰ The Department notes that the outcomes of any administrative proceedings (under the Standard Contract) will necessarily vary given the disparity in the individual contract holders' circumstances, such as their particular delivery commitment schedules, inventory of spent fuel and storage capabilities.
2. That with respect to Yankee Atomic's request for removal of its spent fuel, the utility has not demonstrated any immediate harm to justify excusing it from the normal rule applicable to parties to contracts in the United States – that they first exhaust contract remedies; that Yankee's situation is not unique as there are 12 other reactors that are shut

8. On 29 December 1997, Yankee Atomic Electric Company filed a petition for rehearing in the U.S. Court of Appeals for the District of Columbia Circuit seeking an order that the Department of Energy remove its spent fuel. That petition is pending, along with the petition for rehearing filed by the Department.

9. Yankee Atomic has claimed in the past that its plant could be completely dismantled and the site restored to a "green field" as early as the year 2003. It has also asserted that a 30-year delay would impose an inequitable burden on Yankee Atomic because it would be obliged to construct dry storage facilities for holding spent fuel, pending acceptance by the Department, and maintain infrastructure - with a resulting burden on ratepayers and without electricity generation as a source of revenue.

10. The Department has submitted in its "Respondents' Opposition to State Petitioners' Motion For Enforcement of Limited Mandamus" (12 February 1998) that the State petitioners have no "standing" to dispute the benefits or defects of remedies provided under the Standard Contract to which they are not parties. The U.S. Supreme Court has held that to have "standing" a plaintiff "must assert his own legal rights and interests, and cannot rest his claim to relief on the legal rights or interests of third parties." *Warth v. Seldin*, 422 U.S. 490, 499 (1975).

- down and the owners of four such reactors have also paid all their fees and have no other nuclear facilities on site; that the utility's contract provisions for ranking spent fuel and allocating disposal and storage capacity demonstrate that Yankee would not be able to complete decommissioning for nearly 20 years; and that a court order accelerating Yankee's priority and removal of all spent fuel at once is not justified – in light of potentially inequitable consequences for other contract holders.
3. That the Department's program to accept foreign research reactor spent fuel supports the United States' nonproliferation policy; that the program is designed to recover highly enriched uranium fuels previously supplied by the United States to foreign research reactors and facilitate their conversion to low enriched uranium fuels that are not conducive to nuclear weapons use; and that the program is carried out under authority of the Atomic Energy Act (AEA)¹¹, not the NWPA.
 4. That the Department has used its authorities under the AEA in a few limited cases to accept reactor material from commercial reactors for specific research purposes, such as in 1984 to examine the damaged Three Mile Island reactor core to better understand degraded core performance, but that these authorities do not allow the Department to establish a general program for the purpose of storing commercial spent fuel prior to disposal.¹²
 5. That Congress enacted the elaborate scheme of the NWPA for storage and disposal of, inter alia, commercial spent fuel and that the NWPA precludes bypassing this comprehensive scheme through reliance on authorities under the AEA to provide such services.¹³

11. 42 U.S.C. 2011 et seq.

12. “Respondent's [Department of Energy] Response to Petition for a Writ of Mandamus” at 9, *Northern States Power Co. v. Dept. of Energy*, 128 F.3d 754 (D.C. Cir. 1997) (Nos. 97-1064 and 97-1065).

13. *Id.* at 10.

NATIONAL LEGISLATIVE AND REGULATORY ACTIVITIES

Algeria

Radiation Protection

Decree establishing the Atomic Energy Commission (1996)

Decree No. 96-436 of 1 December 1996 establishes the Atomic Energy Commission as the body responsible for the definition and implementation of national policy on the promotion and development of nuclear energy and technology.

This Decree was adopted pursuant to Act No. 83-03 of 5 February 1983 on Environmental Protection, and was published in the Official Gazette of the Republic of Algeria No. 75 of 4 December 1996.

The mandate of the Commission is:

- to study and formulate proposals on national policy in the field of atomic energy, in accordance with the directions and priorities identified, and decisions adopted, by the supervisory authority;
- to ensure that requirements concerning the storage of radioactive waste are fulfilled and to ensure the management and control of such waste;
- to contribute, in collaboration with other competent bodies, to the development of technical and safety specifications in its areas of activity, and to guarantee the application of measures designed to protect persons, property and the environment from the harmful effects of ionising radiation;
- to contribute, in collaboration with other competent bodies, to the development of nuclear safety standards, and of general technical regulations concerning nuclear installations, installations for the management of radioactive materials and installations for radioactive waste;
- to participate, with other competent bodies, in the development of legislative and regulatory instruments governing nuclear energy;
- to ensure the collection, preservation and dissemination of technical and scientific information, or any other information related to atomic energy.

The Decree also describes the structure, composition and mode of operation of the Commission. Implementing legislation will be adopted to further specify the practical application of this Decree.

Belarus

Radiation Protection

New Law on Radiation Protection of the Public (1998)

The Law on Radiation Protection of the Public was adopted and subsequently promulgated by the President on 5 January 1998 (for details of this Law when it was in draft form before the Parliament, see *Nuclear Law Bulletin* No. 60).

Belgium

Organisation and Structure

Act on the Staffing of the Federal Agency for Nuclear Control (1997)

Chapter V of the Planning Law of 12 December 1997 introduces an amendment to Article 45 of the Act of 15 April 1994 on protection of the public and the environment against the dangers of ionising radiation, and on the Federal Agency for Nuclear Control (see *Nuclear Law Bulletin* No. 53).

Article 45 regulates the transfer of personnel to the Agency from the Division of Technical Safety of Nuclear Installations, which is part of the Ministry of Employment and Labour, and the Division for Protection against Ionising Radiation, which is part of the Ministry of Social Affairs, Public Health and the Environment. The amendment provides that such transfers will no longer happen automatically, but instead will be subject to a preliminary selection carried out by the Board of Directors of the Agency. Furthermore, personnel from other government departments in the nuclear field may be integrated into the Agency upon the advice of its Board of Directors.

This Act was published in the *Moniteur Belge* of 18 December 1997.

Radiation Protection

Royal Decree on Radiation Protection (1997)

The Royal Decree of 2 October 1997 amends the Royal Decree of 28 February 1963 on the protection of workers and the general public from the dangers of ionising radiation (see *Nuclear Law Bulletin* No. 1). It also effects the entry into force of parts of the Act of 15 April 1994 on protection of

the public and the environment against the dangers of ionising radiation and on the Federal Agency for Nuclear Control (see *Nuclear Law Bulletins* Nos. 53 and 57).

This Decree aims to complete the implementation into Belgian law of a series of European Union Directives, including, in particular, Council Directive 90/641/Euratom of 4 December 1990 on the protection of outside workers exposed to the risk of ionising radiation during their activities in restricted areas. This Directive had already been partially implemented by the adoption of the Royal Order of 25 April 1997 (see *Nuclear Law Bulletin* No 60). In addition, this Decree implements Council Directive 92/3/Euratom of 3 February 1992 on the supervision and control of shipments of radioactive waste between Member States and into and out of the Community. In this respect, the Decree sets out a model uniform document for the surveillance and control of these transfers. Finally, the Decree completes the implementation of Council Directive 89/618/Euratom of 27 November 1989 on informing the general public about health protection measures to be applied and about steps to be taken in the event of a radiological emergency.

The amendments made to the afore-mentioned 1963 Decree include a new Section on the operational protection of outside workers exposed to radiation during activities in restricted areas which defines, *inter alia*, the obligations of the “outside enterprise” and those of the operator (Section VI, Chapter III). Furthermore, Chapter IV of the 1963 Decree is replaced by provisions governing import, export, transit and distribution of radioactive substances. These provisions describe the formalities for obtaining a license for any of the above activities.

Finally, the Decree provides that persons responsible for the operation of establishments where radiological, radiotherapeutic or nuclear medicine installations are in use, must consult experts in radio-physics for the organisation and supervision of measures necessary to guarantee the protection of patients against the harmful effects of ionising radiation and to control the quality of the equipment used. The Decree lays down the criteria and procedure according to which these experts in radio-physics are officially recognised. The latter provisions were adopted pursuant to Directive 84/466/Euratom on radiological protection of patients.

This Decree was published in the *Moniteur belge* of 23 October 1997

Brazil

Organisation and Structure

Decree establishing the National Electrical Energy Agency (1997)

Decree No. 2.335 of 6 October 1997 sets up the National Electrical Energy Agency under the authority of the Ministry for Energy and Mining. This Decree describes the nature and the objectives of the Agency, its structure and powers, and the particular responsibilities of its Board of Directors.

The mandate of the Agency is to regulate the production, distribution, commercialisation and control of electrical energy in general. Its principal activities in the nuclear field relate to the regulation and control of energy produced in nuclear power plants. In addition, the Agency participates in research and technological development activities in the electrical sector (including

nuclear energy), and is responsible for promoting co-operation with national and international bodies in this field.

This Decree was published in the Official Gazette of 7 October 1997

Regime of Nuclear Installations

Resolution on Protection Against Fires (1997)

This Resolution, adopted by the National Commission on Nuclear Energy on 16 September 1997, governs fire protection measures to be taken in nuclear fuel cycle installations.

The standards set out in this Resolution aim to protect the public and the environment against the harmful effects of fires which may occur during the construction, operation or conversion of nuclear fuel cycle installations.

Regime of Radioactive Materials

Resolution on the Possession of Radioactive Sources by Natural Persons (1997)

This Resolution, adopted by the National Commission for Nuclear Energy on 16 September 1997, sets out requirements for the registration of all professionals responsible for the preparation, use and handling of radioactive sources, both sealed and unsealed, in the following sectors: industrial, medical-veterinary, education and research, agriculture and the tertiary sector.

People's Republic of China

Overview of Nuclear Legislation

Introduction

China currently has three pressurised water reactors (PWR) in operation, one of which, located at the Qinshan station, was the first reactor developed exclusively by China. The other two, whose equipment was mainly supplied by Framatome, are located at the Daya Bay station. The total capacity of the three reactors is about 2 100 MWe, being approximately 0.9 per cent of the capacity of all power sources as of the end of 1996.

In addition, there are four more PWR's under construction, all of which are scheduled to be commissioned at the start of the next century: two of these units are at Qinshan with the remaining two at Guandong Lingao. Two new reactor projects are also underway; the first comprises the construction of two CANDU reactors at Qinshan in co-operation with Canada, while the second involves the construction of two PWR's at Lianyungang in co-operation with Russia.

Competent Nuclear Authorities

The National Nuclear Safety Administration (NNSA) was established in 1984 under the authority of the State Science and Technology Commission to exercise control over nuclear installations, including regulating safety and to ensure the safe development of the peaceful uses of nuclear energy. The NNSA established the Beijing Nuclear Safety Centre to provide technical advice and three regional offices in areas where nuclear installations are located. The Nuclear Safety Advisory Committee, which was established in 1986, is another agency providing NNSA with advice on licensing conditions, research and development planning and nuclear safety policy.

The main functions of the NNSA are as follows:

- to prepare regulations dealing with the safety of nuclear installations and to review technical standards for nuclear safety;
- to assess the safety of nuclear installations and the capability of operating organizations to ensure their safe operation
- to issue or revoke licences;
- to investigate and dealing with safety related accidents;
- to guide and supervise the establishment and implementation of emergency plans in co-operation with relevant departments or agencies;
- to assist in the development of scientific research, public information and education, and international co-operation relating to the safety and management of nuclear installations;
- to mediate and settle disputes relating to nuclear safety in co-operation with relevant departments.

The China National Nuclear Corporation established in 1988 under the authority of the State Council, is a national corporation with primary responsibility for the promotion and development of nuclear energy. It is also responsible for international co-operation in the field of nuclear energy and for directing the appropriate response to a nuclear accident.

Other national organisations directly involved with nuclear safety are:

- **National Environmental Protection Agency**, the State agency responsible for reviewing and approving the environmental aspects of feasibility reports for nuclear installations and monitoring the environmental impacts of nuclear installations.
- **Ministry of Public Health**, responsible for approving the registration of radioactive sources for use in medical, industrial and research facilities and the registration of ionising radiation generating devices, for monitoring both occupational and non-occupational radiation doses, and for providing medical facilities for radiation injuries.
- **Office for Nuclear Materials Control**, is responsible for nuclear materials control, including issuing nuclear materials licences, establishing regulations and systems

relating to nuclear materials control and establishing and monitoring the accountancy system for nuclear materials on a national basis.

- **National Office for Nuclear Emergency Preparedness**, a State agency administered by the State Council through the State Planning Agency, whose main responsibilities are to review and approve off-site emergency plans for nuclear power plants and to prepare and co-ordinate the national nuclear emergency plan.

Legislation in force

No legislation generally addressing the use of nuclear energy in China yet exists. However, in the fields of nuclear safety and nuclear exports, five regulations have been adopted by the State Council, as follows:

- Regulations on the safety and control of civilian nuclear installations (HAF0500, 29 October 1986) establish a licensing system for nuclear installations, set forth the functions of the NNSA and provide for a “safety first” principle to be applied to the siting, design, construction, operation and decommissioning of nuclear installations;
- Regulations on the control of nuclear materials (HAF0600, 15 June 1987) establish a system of licensing and control over the safe and lawful use of nuclear materials;
- Regulations on radiation protection in respect of radioisotopes and radiation equipment (24 October 1989) establish a system of licensing and apply to everyone engaged in the sale or use of radiation equipment;
- Regulations on the control of nuclear emergencies involving nuclear power plants (HAF0700, 4 August 1993) set forth the functions of government departments and organisations responsible for emergency management.
- Regulations for the control of nuclear exports (No.230, 1 August 1997) provide that nuclear materials, equipment, and related nuclear technology may only be exported for peaceful uses.

Administrative Instruments

In 1986, the State Council issued a statement regarding China’s position on the matter of nuclear third party liability. It is entitled “Official Written Reply of the State Council Concerning the Handling of Third-Party Liability”, and in the absence of Chinese legislation on this subject, it is the only legal instrument which addresses this issue. It was prepared in connection with the construction of the Daya Bay station as a result of a need to clarify the Chinese Government’s official position on the matter. The Statement reflects the major principles which are incorporated into the international nuclear liability regime, including the principles of strict and exclusive liability of the operator and limitations upon the operator’s liability in terms of both time and money. However, a number of issues are still not clear when compared to the existing international regime.

Draft Legislation

A draft law generally addressing the use of nuclear energy in China had been submitted to the Standing Committee of the National People's Congress in May 1989, but its consideration was suspended without full discussion, mostly because government restructuring taking place at that time made it unclear who would be responsible for the legislation. A second draft was submitted to the Government in March 1995 by the State Science and Technology Commission (SSTC) and it is currently subject to study and debate.

In addition, a draft law on radioactive pollution prevention and control was submitted by the National Environmental Protection Agency which is now being reviewed by various ministries.

International Conventions

China is party to the following international conventions:

- 1968 Treaty on the Non-Proliferation of Nuclear Weapons, ratified on 9 March 1992;
- 1979 Convention on the Physical Protection of Nuclear Material, acceded to 10 January 1989;
- 1986 Convention on Early Notification of a Nuclear Accident, ratified on 10 September 1987;
- 1986 Convention on Assistance in the Case of Nuclear Accident or Radiological Emergency, ratified on 10 September 1987;
- 1994 Convention on Nuclear Safety, ratified on 9 April 1996.

Czech Republic

General Legislation

Act on the Peaceful Uses of Nuclear Energy and Ionising Radiation (1997)

The text of the Act on the Peaceful Utilisation of Nuclear Energy and Ionising Radiation (the Atomic Act) and on Amendments and Additions to Related Acts, which was adopted on 24 January 1997, is reproduced in the Supplement to this edition of the Bulletin. A brief description of the legislation was given in *Nuclear Law Bulletin* No. 59.

Denmark

Radiation Protection

Order on Dose Limits for Ionising Radiation (1997)

On 31 October 1997, the National Board of Health issued Order No. 823 on dose limits for ionising radiation. This Order repeals and replaces Order No. 838 of 10 December 1986 (see *Nuclear Law Bulletin* No. 39). The Order is in accordance with the Council Directive, 96/29/Euratom of 13 May 1996, laying down basic safety standards for the health of workers and the general public. As well as specifying dose limits for ionising radiation, it also sets out the requirements for dose monitoring and for approved dosimetric services.

Estonia

Radiation Protection

Radiation Act (1997)

The text of the Radiation Act, adopted on 23 April 1997, is reproduced in the Supplement to this edition of the Bulletin. A brief description of the legislation was given in *Nuclear Law Bulletin* No. 60.

France

Regime of Nuclear Installations

Decree Modifying the Categories of Installations for the Protection of the Environment (1997)

Decree No.97-116 of 27 November 1997 modifies the Decree of 20 May 1953, as amended, on the categories of installations for the protection of the environment (see *Nuclear Law Bulletin* No. 1). Section 1 of Act No.76-663 of 19 July 1976 provides a definition of installations for the protection of the environment: “factories, workshops, warehouses, building sites and any other installations managed or possessed by a natural or legal person of public or of private law, which constitute risks or inconveniences to the well-being of the neighbourhood, to public health, safety or hygiene, to agriculture, to the protection of nature and the environment or to the preservation of sites and monuments”.

Section 2 of the 1976 Act, which provides that “installations described in Section 1 are defined according to the categories of installations established by decree of the Council of State” therefore refers to Decree No. 53-578 of 20 May 1953, as amended (see *Nuclear Law Bulletin*

No. 18). The latter provides that installations are subject to licensing or to declaration depending on the level of danger or inconvenience which their operation may cause.

Certain installations for the protection of the environment are designed to contain radioactive materials. Classifications 1710, 1711, 1720 and 1721 correspond to installations where certain types of radioactive material may be used, placed or stored.

The new Decree No.97-116 contains three annexes: the first deals with the revision of existing categories, the second governs the creation of new categories and the third describes the removal of four categories. New categories include Classification No. 2799, entitled "Waste from major nuclear installations" (disposal installations except installations mentioned under classification Nos. 322, 1711 and 1720 and major nuclear installations). Installations which dispose of low-level radioactive waste from major nuclear installations, and in particular certain demolition waste, are subject to licensing.

Transport of Radioactive Waste

Amendment of two Orders of 1996 on the Transport of Dangerous Goods by Road and Rail (1997)

The Orders of 5 and 6 December 1996 on the transport of dangerous goods by road and by rail, respectively, have been amended by two new Orders of 16 December 1997.

The first Order of 16 December 1997 modifies the Order of 5 December 1996 on road transport in order to take into account the new powers of the Minister for Economic Affairs, Finance and Industry and the Minister for Territorial Development and the Environment in the field of transport of radioactive and fissionable materials for non-military purposes, which powers were attributed to them by the Decrees Nos 97-710 and 97-715 of 11 June 1997 (See, for the former of these two instruments, *Nuclear Law Bulletin* No. 60).

Section 47 of the new Order provides furthermore that the Institute for Nuclear Safety and Protection will co-operate with the Directorate for the Safety of Nuclear Installations (DSIN) with regard to the granting of authorisations necessary for deliveries of radioactive substances.

The second Order of 16 December 1997 amends the Order of 6 December 1996 on the transport of dangerous goods by rail for the same reasons as outlined above.

Circular Implementing European Union Council Directive 95/50/EC on Uniform Procedures for the Transport of Dangerous Goods by Road (1997)

This Circular of 29 October 1997 refers to all texts applicable to the transport of dangerous goods by road, and indicates specifically the type of control and inspection to apply to such goods. In particular, it is provided that inspections can be carried out within companies.

Germany

General Legislation

Amendment of the 1959 Atomic Energy Act and of the Act on the Establishment of a Federal Office for Radiation Protection (1998)

An Act to Amend the Atomic Energy Act and the Act on the Establishment of a Federal Office for Radiation Protection adopted on 6 April 1998 (BGBl 1998 I, p. 694).

The first goal of the Act is to implement the Directive of the European Union, 92/3/Euratom of 3 February 1992, on the supervision and control of transboundary movement of radioactive waste (*EC Official Journal 1992 No. L 35, p. 24*). The implementation of that Directive at national level was required on 1 January 1994. However, there was a need to introduce into the Atomic Energy Act a special authorisation for issuing ordinances and to amend the import and export regulations. Moreover, a special ordinance is under preparation.

The Act also aims at improving nuclear safety with regard to existing nuclear installations and with regard to further development of nuclear safety technology. The additional provisions of the Act deal mainly with the final disposal of radioactive waste.

In addition to the implementation of the European Union Directive, the Act deals with the following subjects:

- By way of clarification a new sentence 2 of Section 7, Paragraph 2, aims at facilitating safety improvements of existing nuclear installations. In the future the safety improvements of existing nuclear installations may also be permitted if they cannot entirely reach the safety standard which is required in the licensing procedure for new nuclear installations. This provision is meant to encourage operators not to refrain from safety-oriented back-fitting measures even if those back-fitting measures do not entirely comply with the latest status of science and technology, as required for new installations.
- A new Section 7c introduces a procedure which aims at promoting the development of new reactor types with an advanced safety technology. The drafters of the Act had in mind, in particular, the German-French project of a new European Pressurised Water Reactor (EPR). Section 7c allows the assessment of single elements of the necessary safety requirements, independently of the site of the installation. The competent authority for the new procedure is not the authority which in general is competent for issuing installation licences, namely the competent Ministry of the respective “Land”, but rather the Federal Office for Radiation Protection. The procedure aims at giving the Federal Office the opportunity to influence new safety concepts during the development phase. Consequently, the licensing authority competent for the final procedure is not bound by the results of the preliminary assessment. The results of that assessment will be published in the “*Bundesanzeiger*”, and it may have significance for the final licensing procedure. The Federal Government also intends the new provision to be an important signal that Germany is prepared to actively take part in the international development of enhanced nuclear safety standards.

- The Act introduces substantial changes to the provisions on the final disposal of radioactive waste (See *Nuclear Law Bulletin* No. 59).
 - According to Section 9a Paragraph 3, the final disposal of radioactive waste is a task to be fulfilled by the Federal Government. The Federal Government has to construct and to operate final repositories and may use third parties to assist it in fulfilling this task. The new version of Section 9a now opens the door for a full transfer of functions to third parties in two steps:
 - The Federal Government still remains responsible for final disposal and it may still use dependent third parties. However, the Federal Government is now authorised to transfer its public functions in the field of final disposal to third parties by entrusting them with public power (so-called “*beliehener Unternehmer*”). In this case the private person, which will normally be a company, will exercise public power on behalf of the Federal Government. The third party has to guarantee that it will fulfil its transferred powers in the way described by the law. This transfer of function is meant as a first step to privatising final disposal of radioactive waste (see new Paragraph 4 of Section 9a, Atomic Energy Act).
 - The second step to transferring public functions to private nuclear industry is not yet elaborated in the Act. A new sentence 3, which is added to Section 9a, Paragraph 3, provides for a legislative programme. According to that programme, the responsibility of the Federal Government to construct and operate final repositories for radioactive waste may, on the basis of a new law to be promulgated, be entirely transferred to a newly-established corporate body under public law (“*Körperschaft des öffentlichen Rechts*”). According to the purposes of the Act, all operators of nuclear installations and other entities producing nuclear waste which need facilities for final disposal of radioactive waste shall be mandatory members of the corporate body. This would be the final step towards “privatising” nuclear waste disposal. The waste disposal still remains a domain of public law, but responsibility rests with the waste producers. The Federal Government will no longer be responsible for final disposal. However, the form of a corporate body under public law ensures that waste disposal is still a public task and is supervised under the rules of public law.
 - In order to facilitate the construction and operation of final repositories for nuclear waste and in order to facilitate changes to existing repositories, new sections 9d to 9g provide for the possibility of expropriations if necessary. This compulsory purchase with provision for compensation is also permitted with a view to facilitating the investigation of a site for a nuclear waste repository. The latter measure has special importance for investigating possible disposal sites in deep geological formations.
- Section 11, Paragraph 1 is amended by a new No. 6, which provides for the necessary authorisation to the Government to issue the legal instruments (ordinances) necessary to implement the European Union Directive on the transboundary movement of radioactive waste.
- In accordance with Section 57a, Atomic Energy Act, which contains transitory provisions on the continuation of licences issued under the law of the former German Democratic Republic, the validity of GDR-licences will terminate on 30 June 2000, provided they have not already

terminated at an earlier date. The amendment prolongs the date to 30 June 2005. However, this prolongation is only relevant to the former GDR repository Morsleben.

- The Act amends Annex 1 to the Atomic Energy Act, which contains the definitions applying to the liability chapter of the Act, and which is identical to Article 1 (a) of the Paris Convention. Following the NEA Steering Committee's Decision of 11 April 1984 (NE/M(84)1) "installations for the disposal of nuclear substances" are included in the list and are now "nuclear installations" in the sense of the Paris Convention.
- Finally, this Act entrusts responsibility to the Federal Office for Radiation Protection to support with its expert knowledge other authorities, including the police, in cases of loss or discovery of radioactive substances or in cases where radioactive substances are involved in crimes or endanger life, health or property of individuals or the public. For this purpose Section 2 of the Act on the Establishment of a Federal Office for Radiation Protection has been amended accordingly.

The amendment will enter into force on 1 May 1998.

Radiation Protection

The Third Ordinance Implementing the Preventive Radiation Protection Act (1997)

A third Ordinance of 16 October 1997 was adopted (BGBl. I, p. 2474) to assign competence for measurements and evaluations in accordance with the Preventive Radiation Protection Act of 1986 as amended (See *Nuclear Law Bulletin* No. 39). According to the Ordinance the Federal Office for Radiation Protection is responsible for extensive investigation of the gamma dose rate.

Ordinance on Cosmetics (1997)

The Ordinance on Cosmetics of 19 June 1985 (BGBl. I, p. 1082) was amended by the 26th Ordinance to amend the Ordinance on Cosmetics of 13 June 1997 (BGBl. I, p. 1356). A consolidated new version of the Ordinance was published on 7 October 1997 (BGBl. I, p. 2410). In accordance with Section 1 and No. 293 of Annex 1 to the Ordinance, radioactive substances must not be used for the commercial production of or the treatment of cosmetics. However, naturally-occurring nuclides and radioactive substances produced by artificial contamination of the environment may be used as long as they are not enriched and as long as their radioactivity concentration is in line with the European Union Directive on Health Protection of the Public and of Workers against the Risk of Ionising Radiation.

Transport of Radioactive Materials

Ordinance on the Transport of Dangerous Goods by Inland Waterways (1997)

The Dangerous Goods Ordinance – Inland Waterways of 18 January 1996, as amended by the 2nd Ordinance of 20 December 1996 (See *Nuclear Law Bulletin* No. 59), was amended by the 3rd

Ordinance of 4 December 1997 (BGBl. 1997 I, p. 2853). The main purpose of the amendments is to list the competent authorities for Annexes B1 and B2 to the ADNRR agreement. By an Ordinance also of 4 December 1997 (BGBl. 1997 I, p. 2123) amendments of Annex B2 to the Ordinance on the Transport of Dangerous Goods on the Rhine River (ADNR) and to the Ordinance Regarding the Transport of Dangerous Goods on the Mosel River in Germany have come into force.

Regulations on Nuclear Trade (including non-proliferation)

Amendments to the Foreign Trade Ordinance (1997-1998)

The Foreign Trade Ordinance of 22 November 1993, as last amended by the Ordinance of 27 May 1997 (See *Nuclear Law Bulletin* No. 60) was amended once again, by the 40th Ordinance to Amend the Foreign Trade Ordinance of 11 December 1997 (*Bundesanzeiger* 1997 Attachment No. 242) and by the 41st Ordinance to Amend the Foreign Trade Ordinance of 20 January 1998 (*Bundesanzeiger* 1998 p. 985). The first of these amendments aims at adapting the Foreign Trade Ordinance to changes in the international field and at simplifying procedural provisions. In particular, the amendments follow upon the change of the Iraq embargo and the change of restrictions vis-à-vis the Federal Republic of Yugoslavia (Serbia and Montenegro), the Republic of Croatia, Bosnia and Herzegovina. The amendment also takes into account the termination of the COCOM control system. Moreover, the amendment permits new media in order to facilitate the licensing procedures. The second amendment implements, on the basis of the UN Security Council Resolution No. 1132 (1997), certain restrictions vis-à-vis Sierra Leone.

The 93rd Ordinance to Amend the Export-List – Annex AL to the Foreign Trade Act – of 4 September 1997 was published in *Bundesanzeiger* 1997, p. 11, 757 (as for the 91st and 92nd amendments, see *Nuclear Law Bulletin* No. 60). This amendment adapts the Export-List, in accordance with the Council Decision of the European Union No. 97/419/GASP of 26 June 1997, to the Joint List of the European Union for Goods with Dual Use.

Indonesia

Third Party Liability

New Third Party Liability Regime under the new Act on Nuclear Energy (1997)

The new Act on Nuclear Energy (No. 10 of 1997), which repealed and replaced the Atomic Energy Act of 1964, was promulgated by the President of Indonesia on 10 April 1997 (See *Nuclear Law Bulletin* No. 59). Under Article 45 of the Act, all regulations currently in force dealing with nuclear energy remain in force to the extent that they are not incompatible with the provisions of the Act.

Under the new Act there are detailed provisions on third party liability for nuclear damage. Thus, the operator of a nuclear installation is liable for damage suffered by a third party resulting from any nuclear incident inside the nuclear installation. The sending operator is liable for damage suffered by a third party during the transportation of nuclear fuel or spent fuel, subject to the right of

the sending operator to transfer the liability to the receiving operator or the carrier by written agreement. The Act provides for joint and several liability where the nuclear damage can be attributed to more than one operator and the damage attributable to each is not reasonably separable (Article 30).

This liability is strict, with the proviso, however, that the operator shall not be liable for damage directly due to an act of international or local armed conflict or a grave natural disaster, nor if it results from the intent of the third party suffering the damage.

The maximum limit of liability of the operator shall be not less than 900 billion rupiahs, which, at present, is subject to considerable fluctuation when converted to a foreign currency equivalent because of the economic situation prevailing in Indonesia. Any limit of liability above that amount is to be established by a Presidential Decree. This amount does not include interest and costs awarded by the Court.

There are provisions requiring insurance cover for the operator, including both the sending operator and the receiving operator in the case of transport, but these do not apply to Government-operated nuclear installations which are not State companies, in respect of which compensation for nuclear damage is to be the subject of a Presidential Decree.

The insurance company liable to pay the compensation shall do so within seven days of the issuance of a statement of the occurrence of the nuclear incident by the regulatory body, which statement shall be issued within three days from the date of the incident. There is a time-limit of 30 years within which to bring a claim for compensation, commencing from the date of the statement of the regulatory body that a nuclear incident has occurred. Where the damage arises from a nuclear incident involving nuclear fuel which has been stolen, lost or abandoned at the time of the incident, then the time-limit within which a claim for compensation must be made will be 40 years from the date of theft, loss or abandonment. There is also a further requirement that claims be brought within three years of the time the person suffering the nuclear damage knew or should have known of the nuclear damage and of the operator liable.

Latvia

Regime of Radioactive Materials (including Physical Protection)

Regulations on State System of Accounting and Control of Nuclear Materials (1998)

In March 1998 the Cabinet of Ministers adopted the Regulations on State System of Accounting and Control. The Regulations were drafted by the Ministry of Environmental Protection and Regional Development on the basis of Euratom Regulations in this field.

By way of a short summary, the Regulations include provisions on their objectives, information and notification requirements regarding NPP design and nuclear materials, a control programme (obligations of the operator regarding inventory), implementation of the Regulations (responsibility of operator, nomination of responsible person, information exchange with Inspectorate), the system of nuclear accounting, accounting reports and export/import of nuclear

materials (notification, requirements for export/import, including prohibition of export to non-NPT countries).

Regulations on Nuclear Trade (including Non-Proliferation)

Regulations Regarding Control of Strategic Goods and Import of Radioactive Substances (1997-1998)

On 16 December 1997, the Cabinet of Ministers adopted new Regulations on Control of Strategic Goods (No. 421, 1997). These Regulations replace the 1995 Regulations concerning Strategic Export, Import and Transit and also the Regulations concerning the Committee for Control of Strategic Export and Import. The Regulations cover all aspects of the *Nuclear Suppliers Group* regime. In practice they represent only minor changes to the previous Regulations and the change of name for the Committee reflects only internal institutional changes within the Latvian Development Agency.

Radioactive Waste Management

Amendment to the Licensing Regulations (1998)

In March 1998 the Cabinet adopted amendments to the Licensing Regulations, whose main aim is to replace the Guaranty Fund for the State enterprise “Radons”, with the Latvian Environmental Protection Fund for the collection of duty on the import of radioactive substances. The main task of the Fund is to manage the financial resources made available to it for environmental purposes. It has its own management, but policy decisions are made by the Board, which is headed by the Minister for the Environment and has representatives from the Ministry and certain nominated institutions.

Lithuania

General Legislation

Regulations on Licensing of Nuclear Activities (1998)

Regulations on the Licensing of Nuclear Activities were recently prepared by the Lithuanian State Nuclear Power Safety Inspectorate (VATESI) and approved by Government Decree No. 103 of 27 January 1998 (published in Official Journal No. 12-274, 1998).

The process of licensing nuclear activities is not strictly centralised in Lithuania. Under these Regulations, VATESI is responsible for issuing licences for the design, construction, modification, operation and maintenance of nuclear facilities, the acquisition, possession and transportation of nuclear materials and the storage and disposal of radioactive waste. The Ministry of Environmental Protection is responsible for issuing licences for the acquisition, possession and

transportation of radioactive materials. The Ministry of Economy is responsible for the issue of licences for the export, import and transit of nuclear, radioactive and other materials used in nuclear technologies, of nuclear equipment and of dual-use goods. The Ministry of Health Protection issues permits for the use of radioactive materials and other sources of ionising radiation.

Organisation and Structure

Creation of the Board of State Nuclear Power Safety Inspectorate (1997)

On 14 November 1997, by Government Decree No. 1257 (published in Official Journal No. 108-2678, 1997), the Board of Management of the State Nuclear Power Safety Inspectorate (VATESI) was established. Until then, VATESI had been directed by the Head of the Inspectorate. The functions of the Board are to define the direction of VATESI's main activities, to approve its strategic development plans, to analyse its annual financial accounts, its annual activity reports and its plans for future activities, to approve the principles governing research and development applications and to stimulate co-operation between VATESI and State authorities. The Board is to meet 4 to 6 times a year. The decisions of the Board cannot restrict the independence or responsibility of the Inspectorate.

The Board consists of a Chairman, two members of Parliament, two representatives of ministries, one representative of the technical support group (Ignalina Safety Analysis Group) and the Head of the Inspectorate.

Morocco

Radiation Protection

Decree on Protection Against Ionising Radiation (1997)

Decree No 2-97-30 was adopted on 28 October 1997 pursuant to Act No 005-71 of 12 October 1971 on protection against ionising radiation. It was published in the Official Gazette of 4 December 1997. This Decree sets out general principles of protection against the harmful effects which can result from the use of ionising radiation and establishes certain requirements to which any activity involving exposure to radiation must conform. Establishments which carry out activities in this field are divided into different categories which determine whether or not they require a licence or a preliminary declaration.

The Decree draws a distinction between provisions applicable to normal and controllable uses of ionising radiation and those which apply to exceptional circumstances and emergency situations. It applies the principles of justification and optimisation to the system of dose limits, and specific provisions govern the exposure of workers, of students and apprentices of the general public, and exposures of an exceptional nature.

The provisions of the Decree which govern licences and declarations refer to Decree No 2-94-666 of 7 December 1994 on the licensing and control of nuclear installations. The latter

Decree, also adopted pursuant to the 1971 Act, defines a nuclear installation and provides that the construction, commissioning, operation and final shut-down of such an installation are subject to licensing. This Decree also establishes the National Commission for Nuclear Safety, whose mandate is to provide opinions on licensing requests made under this Decree.

The 1997 Decree provides that the National Radiation Protection Centre, which is part of the Ministry for Public Health, is responsible for the keeping of a register of licences and declarations. Furthermore, a new body, the National Commission for Radiological Protection, which also forms part of the Ministry of Public Health, has the power to issue opinions on any question related to radiological protection.

Decree on the Use of Ionising Radiation for Medical or Dental Purposes (1997)

Decree No 2-97-132 was adopted on 28 October 1997 and published in the Official Gazette on 4 December 1997. It provides that the use of ionising radiation for medical or dental purposes may only be carried out by qualified personnel in premises fitted out and equipped according to the Regulations.

Apparatus and sources which are used for these purposes must appear on the list of equipment for which type approval has been granted by the Minister for Public Health. In this manner, the import, manufacture and sale of articles which are not included on this list is prohibited. Medical practitioners are obliged to maintain a register concerning radioactive substances which have been administered to patients for diagnostic or therapeutic purposes. The administration of radioelements for these purposes may only be carried out by doctors specialised in the use of radioisotopes or in nuclear medicine. The Decree includes, in annex, a list of requirements for the fitting-out of premises where ionising radiation sources are used for medical or dental purposes.

Netherlands

Third Party Liability

Royal Decree to Increase the Liability Amount of the Operator of a Nuclear Installation (1998)

Pursuant to Sub-section 5 (2) of the Nuclear Third Party Liability Act of 1979, as amended in 1991, a Royal Decree (No. 577) of 14 November 1997 has increased the maximum amount of the operator's liability from 625 to 750 million Dutch guilders (approximately 275 million Special Drawing Rights). The Decree entered into force on 1 January 1998. The amount of cover from public funds set down in the Act has remained unchanged at five billion Dutch guilders (the text of the 1979 Act is reproduced in the Supplement to *Nuclear Law Bulletin* No. 49).

Poland

Radiation Protection

Regulation Exempting Certain Activities from Licensing (1997)

A 1995 amendment to the Atomic Energy Act of 1986 gave the President of the National Atomic Energy Agency (NAEA) the power to exempt certain activities utilising radiation sources from the requirement to be licensed (the text of the 1986 Act is reproduced in the Supplement to the *Nuclear Law Bulletin* No. 43). By Regulation of 28 August 1997 (*Monitor Polski* No. 59, item 569), the President has exercised this power, exempting those activities where the radiation source is of very low activity or concentration, or where low level sources are contained in equipment conforming to specified construction requirements, thereby assuring a satisfactory level of radiation protection. Although exempt from licensing, these same activities must nevertheless be registered to permit some level of control by the regulatory agency.

This approach reflects current radiation protection principles of restricting the licensing process to activities with a potential radiation hazard. The exemptions are also compatible with the recommendations and rules of international organisations of which Poland is a member or with which it is associated (1994 Basic Radiation Safety Standards of the IAEA; the Directive 96/29/Euratom of 13 May 1996).

Regulation on the Registration and Monitoring of Ionising Radiation Sources (1997)

This Regulation made by the NAEA President on 28 August 1997 (*Monitor Polski* No. 59, item 570) amends an earlier Regulation on the principles of accountancy and control for ionising radiation sources (*Monitor Polski* No. 27, item 214). The amendment provides that the earlier Regulation shall not apply to those sources for which a licence is not required under the Atomic Energy Act of 1986.

Regulation setting Conditions for the Import, Export and Transit of Nuclear Materials, Radiation Sources and Equipment Containing such Sources (1997)

This Regulation, also made by the NAEA on 28 August 1997 (*Monitor Polski* No. 63, item 614 and No. 78, item 749) maintains the requirement that for the import, export and transit through Poland of nuclear materials, radiation sources or equipment containing such sources, a permit or licence for the specified practice related to the use of those items must be obtained. However, it introduces an exception to this requirement to accord with the provisions of new Regulations of 28 August 1997 above which exempt certain activities from the licensing obligation. Consistent with the basis for those exemptions, the Regulation of 28 August 1997 above allows such imports, exports or transit after registration, on the basis of the total activity or concentration of radioisotopes, including fission isotopes, or, in the case of equipment containing radioactive sources, on the basis of the radiation dose rate.

One of the conditions under which imports, exports or the transit of nuclear materials may proceed is the attachment, to the shipment, of the consignee's declaration of readiness to collect the

shipment. The declaration is in the form of a standard document which is consistent with the Annex to the Regulation of the European Union 1493/93/Euratom on shipment of radioactive substances between Member States.

Regulation Designating Occupational Positions for Ensuring Nuclear Safety and Radiation Protection and Staffing Conditions (1997)

This Regulation, made by the NAEA on 19 September 1997 (*Monitor Polski* No. 73, item 698) generally defines the types of occupational positions that are essential for ensuring nuclear safety and radiation protection in facilities where nuclear materials or radiation sources are being used, where radioactive waste is being processed or disposed of, and at nuclear power plants. It also sets forth the conditions and procedures for issuing authorisations, to the individuals appointed to these positions, to work with nuclear materials, radiation sources or radioactive waste. Finally, it prescribes the methods for verifying the qualifications and capabilities of employees working with nuclear materials, radiation sources or radioactive waste. Modifications introduced by this Regulation concern:

- the procedure for obtaining authorisations and the areas within which they are valid;
- designation of those agencies authorised to organise training in the field of nuclear safety and radiation protection;
- the rules for appointing plant inspectors for radiation protection and the definition of their duties;
- generally updating the list of occupational positions and appropriate qualifying requirements.

The Regulation is consistent with European Union regulations, namely, Directive 96/29/Euratom of 13 May 1996, concerning the basic safety standards for radiation protection for workers and for the public.

Romania

General Legislation

Amendment of the Law on the Safe Conduct of Nuclear Activities (1998)

On 8 January 1998, Law No. 16 was adopted (*Monitorul Oficial*, Part 1, No. 8/13 January 1998), amending the 1996 Law on the Safe Conduct of Nuclear Activities (reproduced in the Supplement to *Nuclear Law Bulletin* No. 59).

Although most of the 14 amendments introduced to the 1996 Law were technical in nature, four others are of particular importance:

- Under Article 4(1) of the Law, the National Commission for the Control of Nuclear Activities has been made more independent and is now responsible directly to the Government, rather than being the agent of the Ministry of Waters, Forests and Protection of the Environment.
- Under Article 4(5) the authorisation of the Commission to spend revenue from fees has been widened to cover, in addition to material expenses, personnel expenses, endowments and investments specifically relating to the activities of the Commission. The proportion of the fees collected which can be used for these expenses has been set by Government decision at 50%.
- Article 35 considerably strengthens the powers of the Commission and effectively raises it to the rank of a Ministry, allowing it to propose draft laws and other projects in the field, for submission to the Government and then to Parliament.
- Under Article 37 it is now the Commission, rather than the Central Authority for the Protection of the Environment, which is responsible for radiation monitoring in Romania.

Slovak Republic

General Legislation

Law on the Peaceful Use of Nuclear Energy (1998)

The Law on the Peaceful Use of Nuclear Energy (Atomic Law), Law No. 130, was adopted by the Parliament of the Slovak Republic on 1 April 1998 and published in the Official Journal on 8 May 1998 (see *Nuclear Law Bulletin* No. 60). It will replace Law No. 28/1984 when it enters into force on 1 July 1998.

The Law covers, in a comprehensive manner, the conditions for the use of nuclear energy in the Slovak Republic. It places an emphasis on the safety of nuclear installations in order to protect the environment and to implement international conventions in this area.

It became necessary to repeal and replace Law No. 28/1984, on State supervision of the safety of nuclear installations in light of social and political changes, new environmental legislation, experience with nuclear energy use and international obligations which had arisen since its adoption. In preparing the new Law, account had to be taken of related legislation, such as the Act on Public Safety and Health and the Act establishing a State fund for decommissioning of nuclear power plants and the management of spent fuel and radioactive waste.

The new Law consists of seven main parts:

1. *Basic provisions* – which include the scope of the Law, main definitions, principles of nuclear energy use, requirements for the licence to use nuclear energy and the procedure for the issue of licences.
2. *Nuclear materials* – which defines nuclear materials, special materials and equipment and cover the obligations of users, the transport of nuclear materials and responsibilities for accounting and record keeping.
3. *Nuclear installations, radioactive waste and handling of spent fuel* – which defines nuclear installations and sets up conditions to permit construction, commissioning, operation and decommissioning of nuclear installations.
4. *Nuclear safety and quality assurance* – which defines nuclear safety, sets out the responsibility of the operator, as well as the conditions which have to be fulfilled by the operator to assure safety during all phases of the project. This part includes requirements for the qualification and training of nuclear installation personnel. It sets out quality assurance requirements and requirements for the security of nuclear installations. There is a categorisation of operational events and the obligations of the licence holder during each stage are set out. The requirements for emergency planning cover both on-site and off-site measures and the bodies responsible for the preparation, implementation and approval of them.
5. *Nuclear damage liability* – which implements the obligations of the Slovak Republic under the Vienna Convention on Civil Liability for Nuclear Damage. The operator's liability is limited up to the amount of 2 billion Slovak Crowns. The operator is obliged to secure financial coverage of this responsibility.
6. *Nuclear Regulatory Authority of the Slovak Republic* – which defines the responsibilities of this body and sets out who is subject to State supervision, the methods of supervision, the obligations of different bodies related to the supervisory activity and the responsibilities and rights of nuclear safety inspectors and the Nuclear Regulatory Authority, including the power to shut down a nuclear installation or to stop its construction. This part of the Law also sets out the penalties in case of breach.
7. *General, transitional and final provisions* – which clarifies the relationship of this Law to others, abrogates Law No. 28/1984 on the State supervision of nuclear safety and lists the existing regulations which remain in force until they are up-dated.

Sweden

General Legislation

Act on the Phasing-out of Nuclear Power (1997)

In 1995, the Swedish Government invited the major parliamentary parties to take part in deliberations on a sustainable long-term energy policy. These deliberations concluded on 4 February 1997, and resulted in an inter-party agreement on guidelines for energy policy. The purpose of the policy is to create conditions for the efficient use of energy and for a cost-effective supply of energy, thereby facilitating the creation of an “ecologically sustainable society”.

On 18 December 1997, the Swedish Parliament adopted the Act on the Phasing-out of Nuclear Power (SFS 1997:13320), which entered into force on 1 January 1998. The Act was proposed in the Government Bill 1996/97:84 on “A Sustainable Energy Supply” and formed part of the inter-party agreement on guidelines for the energy policy.

The Act gives the Government the right to revoke a permit to operate a nuclear power reactor on a date to be decided by the Government. The order and timing of the closures will depend on Parliament’s decision on the transformation of the energy system. In deciding when a reactor should be taken out of operation, due regard should be taken of its location, its age, design and its importance for the national energy supply system. The licensee is entitled to compensation from the State for losses caused by an enforced closing-down. The amount of compensation should be decided according to the provisions in the Act on Expropriation (SFS 1972:719). When considering the amount, the lifetime of a reactor shall be estimated to be 40 years.

Pursuant to the Act on Phasing-out of Nuclear Power, the Government decided on 5 February 1998 that the nuclear power reactor Barsebäck No. 1 will be closed down by 1 July 1998. According to the present Government’s plans, the second reactor at Barsebäck shall be closed down* by 1 July 2001. The decision has been taken on appeal to the Swedish Supreme Administrative Court (*Regeringsrätten*) and to the Court of Justice of the European Communities. According to the licenseholder, the decision is contrary to the Swedish Constitution, to Community Law and to the European Convention on Human Rights.

* On 14 May 1998, the Supreme Administrative Court ruled to suspend the application of the Government’s decision until pending legal matters are settled.

Switzerland

Third Party Liability

Ordinance on Third Party Liability in Nuclear Matters: New Method of Calculating Federal Insurance Premiums (1997)

By Ordinance adopted on 19 November 1997 (ORCN; RS 732.441), the Swiss Federal Council has modified the method of calculating federal nuclear third party liability insurance premiums to be paid by those persons responsible for same. As of 1 January 1998, these amounts are fixed in Swiss francs rather than as percentages of the premiums collected by private insurers for third party liability coverage.

Section 5, paragraphs 1 and 1bis specify that contributions in respect of the following facilities are increased to the corresponding amount in Swiss francs:

a) Beznau power plants I and II	2 500 000
b) Mühleberg power plant	1 470 000
c) Gösgen power plant	1 880 000
d) Leibstadt power plant	1 880 000
e) University of Bâle reactor	3 500
f) radioactive waste containers from the former Lucens power plant	2 400

They further provide that contributions from those responsible for nuclear substances in transit are increased to 100 percent of the insurance premium due in respect of third party liability coverage, before taking into account any possible reduction in the premium that might be made as a result of any special arrangement entered into between the insured and the insurer.

In the past, the operators of nuclear installations always paid a federal premium that was proportional to the premium paid to private insurers. This proportion varied considerably, decreasing from 300 percent to 108 percent between 1 January 1984 and 31 December 1997. The continual increase in the amount of coverage provided by private insurers, increasing during this same period from 300 to 700 million Swiss francs, coincided with the continual lowering of the premiums due for such coverage, thereby permitting a lowering of the premiums charged by the Government.

The proportionality relationship between private and federal insurance premium amounts resulted in an untenable situation: the Government was collecting fewer premiums, yet still providing not only conventional risk coverage for the difference between 700 million and 1 billion Swiss francs but also unconventional risk coverage for anywhere up to 1 billion Swiss francs. The new Ordinance corrects the situation by simply ensuring that premiums payable to the Government are calculated on a basis that reflects the extent of both conventional and non-conventional risks that it must legally cover. There is one exception to the new system however, and that concerns the premiums payable for nuclear substances in transit. These premiums will remain at 100 percent of the premium payable to

private insurers, again, without any consideration for reductions agreed upon between the insurer and the insured.

Tunisia

Radioactive Waste Management

Act on the Management and Disposal of Waste (1996)

Act No. 96-41 of 10 June 1996 was published in the Official Gazette of the Republic of Tunisia on 18 June 1996. This Act, which is of a general nature and governs all types of waste, applies also to dangerous waste, including radioactive waste (see *Nuclear Law Bulletin* No 58). The first Chapter of the Act contains general provisions and definitions, Chapter II governs packaging waste, Chapter III regulates waste contained in dumps and Chapter IV deals with the management and disposal of waste.

Chapter V deals more specifically with dangerous waste. The list of categories of dangerous waste is established by decree, and their methods of management are submitted to the Minister for the Environment for approval. The development, collection, sorting, transport, storage, treatment and disposal of dangerous waste are subject to a licence, which is granted by the Minister for the Environment. This Law also establishes a periodical control of establishments which exercise these activities. The latter are obliged to maintain a register containing data concerning waste and its movement. Chapter V also contains provisions governing the disposal of waste, packaging and labelling, as well as declarations which must be made to the Ministry of the Environment concerning this waste. Chapter VI governs the export, import and transit of waste. Finally, Chapter VII sets out the legal proceedings and penalties which apply in respect of infringements of the provisions of this Act.

United Kingdom

Organisation and Structure

Merger of British Nuclear Fuels plc and Magnox Electric plc (1998)

On 30 January 1998, British Nuclear Fuels plc (“BNFL”) merged with Magnox Electric plc (“Magnox Electric”). Both companies were wholly owned by the United Kingdom Government, and the merger took place by the Government transferring all the shares in Magnox Electric to BNFL. The Government remains the sole shareholder in BNFL.

BNFL’s main business is providing nuclear fuel cycle services. It produces nuclear fuel, reprocesses spent fuel and provides clean up services to both United Kingdom and international customers. It also owns and operates the two earliest built Magnox-type nuclear power stations. Magnox Electric owns nine Magnox-type power stations, three of which have closed and are being

decommissioned. A substantial part of Magnox Electric's costs relate to fuel, reprocessing and waste management services provided by BNFL. The principal aim of the merger is to improve the current arrangements for managing public sector nuclear liabilities and to reduce costs for the benefit of the United Kingdom tax payer. The merger will help to reduce the costs of discharging Magnox Electric's nuclear liabilities and will also bring together the technical and commercial expertise of the two companies.

Magnox Electric is now a wholly owned subsidiary of BNFL. Full integration of the combined businesses of the companies is expected to be completed early in 1999, subject to the companies meeting the requirements of the relevant regulators.

Ukraine

Regime of Radioactive materials

Law on Uranium Ore Mining and Processing (1997)

On 19 November 1997, the Ukrainian Rada adopted the Law on Uranium Ore Mining and Processing and it entered into force one month later on 19 December 1997. This new Law, which regulates uranium mining, reprocessing and trading activities, contains specific provisions for the protection of uranium mine workers, the public and the environment against the harmful effects of ionising radiation.

Third party liability

Law on the Introduction of Amendments to certain Ukrainian Legislative Acts in connection with the Accession of Ukraine to the Vienna Convention on Civil Liability for Nuclear Damage (1997)

On 29 December 1997, special legislation came into force in Ukraine which effected amendments to both the Law on the Use of Nuclear Energy and Radiation Safety (the 1995 Law) and to the 1996 Law on Insurance (the text of the 1995 Law is reproduced in the Supplement to the *Nuclear Law Bulletin* No. 56). It provides that, for the purposes of Chapter XIII of the 1995 Law relating to compensation for nuclear damage, all of the defined terms contained in the Vienna Convention on Civil Liability for Nuclear Damage such as "operator" and "nuclear damage", shall be identically defined under the amended Law. Further amendments introduced provisions concerning the exception to the operator's exclusive liability, the consequences of lost, stolen or jettisoned nuclear material, the liability of two or more nuclear operators, the State's right of recourse against the operator, nuclear damage that was the result of an intentional act, on-site property damage and liability for damage caused during transport. The amended Law now sets the limit of the operator's liability at 50 million SDRs, prescribes a 10 year limitation period for property damage claims and no limitation period at all for personal injury claims.

Additional amendments to the 1995 Law ensure that workers at both nuclear installations and other facilities where ionising radiation sources are used, as well as nuclear and radiation safety

inspectors employed by the state, are entitled to socio-economic compensation for any negative health effects thereby caused and shall, in addition, be covered by mandatory insurance against such risks.

The effect of the amendment made to the 1996 Law on Insurance is to permit the underwriting of insurance coverage for an operator's third party liability, and to require that insurance companies which do wish to insure against such risks create a nuclear insurance pool as a separate legal entity backed by insurer's funds.

Radiation protection

Law on Protection Against Ionising Radiation (1998)

The Law on Protection against Ionising Radiation of 14 January 1998 entered into force on 19 February 1998, with the exception of Article 19 which will come into force on 1 January 2000. Its objective is to protect human health and property against the harmful effects of ionising radiation by establishing maximum permissible dose limits for exposure to radiation of 20 mSv (millisievert) per year for occupationally exposed persons and 1 mSv per year for members of the public. The Law also identifies the authorities, at executive, ministerial and local levels, who are responsible for its implementation, and imposes special duties upon certain individuals and organisations with regard to protecting the public in the event of a radiation accident. It also provides for protective measures against the effects of radionuclides which are contained in building materials, food products and potable water, or which are used for medical treatment or diagnostic purposes. In addition, the Law establishes rules concerning compensation for damage resulting from ionising radiation.

Vietnam

Radiation Protection

Ordinance on Radiation Safety and Control (1997)

This Ordinance lays down all of the basic principles required to ensure radiation safety in connection with the import, export, production, use, storage, disposal, transfer and transport of radioactive sources or other activities involving ionising radiation. It was passed by the National Assembly on 26 June 1996 and it took effect as of 1 January 1997.

In general, the Ordinance requires that any organisation or individual carrying out work involving radioactive sources must fully meet the conditions stipulated therein. Such conditions include limiting exposure to radiation to permissible dose levels, ensuring that workers are properly trained and qualified in matters of radiation safety, ensuring quality assurance in the installation and operation of equipment involving radiation sources, properly managing a radiation accident including ensuring the availability of mitigating measures, ensuring that declarations are made to and proper registrations or licences are obtained from the State Management Agency on Radiation Safety and Control for various activities involving radioactive sources, and finally, ensuring that adequate financial resources are provided to enable compliance with the stipulated conditions.

The Ordinance imposes extensive safety related responsibilities upon the owner of an establishment in which a radioactive source is installed or used, it sets forth the responsibilities of the person appointed by the owner to ensure that radiation safety is respected at that establishment and describes the radiation safety responsibilities of the workers themselves. It also imposes upon the owner of radioactive substances the responsibility of ensuring that transport requirements are complied with as regards the packaging and transport of such substances. The owner is also legally liable for providing compensation for the damage caused by a radiation accident. The Ordinance provides that those who suffer personal injury or property damage as a result of a radiation accident or other violation of legal requirements are to receive compensation therefor, and that those who violate any provision of the law with regard to radiation safety shall be subject to a fine or other penalty depending upon the gravity of the violation.

The role and responsibilities of various Government ministries and agencies with regard to radiation safety and control are also set out in the Ordinance. The State Management Agency on Radiation Safety and Control exercises overall supervision over radiation safety and control including the power to inspect premises for compliance with required conditions and to temporarily suspend activities that are likely to cause a radiation accident with dangerous effects upon human health or the environment. Other ministries, such as the Ministry of Science, Technology and Environment and various local agencies, such as the People's Committees at the district and provincial levels also have specific responsibilities, particularly in the case of a radiation accident.

INTERNATIONAL REGULATORY ACTIVITIES

OECD Nuclear Energy Agency

Meeting of the Contracting Parties to Consider the Revision of the 1960 Paris Convention (1998)

The Contracting Parties to the 1960 Paris Convention on Third Party Liability in the Field of Nuclear Energy met from 1 to 3 April 1998 at the NEA headquarters in Paris to commence the revision of the Convention.

The decision of the Contracting Parties in November 1997 to revise the Paris Convention arose as a result of the adoption, in September 1997, of a Protocol to Amend the Vienna Convention on Civil Liability for Nuclear Damage and of a new Convention on Supplementary Compensation for Nuclear damage. This decision was made in order to maintain the harmonisation between the Paris Convention and Vienna Convention, an issue which is of particular importance to those countries who have ratified the 1988 Joint Protocol relating to the Application of the Vienna Convention and the Paris Convention. The Contracting Parties aim to revise the Paris Convention as quickly as possible, hopefully within a 3-year period. The next meeting of the Contracting Parties will be held from 1 to 3 July 1998.

European Union

Communication by the Commission concerning the Implementation of Council Directive 96/29/Euratom (1998)

The European Commission adopted on 23 February 1998 a Communication concerning the implementation of Council Directive 96/29/Euratom of 13 May 1996 laying down basic safety standards for the protection of the health of the workers and the general public against the dangers arising from ionising radiation. This Directive repeals, with effect from 13 May 2000, the previously established Basic Safety Standards Directives (see Chapter “Articles” of *Nuclear Law Bulletin* 58 for a review of Directive 96/29/Euratom).

This Communication is aimed to help Member States implement Directive 96/29/Euratom into their domestic law before 13 May 2000. In order to attain this objective, it clarifies certain articles of the Directive, and refers to documents governing technical aspects issued by the European Commission or by the International Commission on Radiological Protection.

The text of this Communication is published in the Official Journal of the European Communities No. C 133 of 30 April 1998.

AGREEMENTS

BILATERAL AGREEMENTS

Argentina – EURATOM

Co-operation Agreement relating to the Peaceful Uses of Nuclear Energy (1996)

This Agreement was signed at Brussels on 11 June 1996. The preamble refers to the Agreement for Commercial and Economic Co-operation between the EEC and Argentina, signed in Luxembourg on 2 April 1990. That earlier agreement provided that the Parties would encourage mutual co-operation, in particular in the energy sector. The 1996 Agreement confirmed that the production of nuclear energy and related activities are firmly established in the Community and Argentina as a competitive industrial sector. Further, its preamble refers to the adherence by Argentina to the Treaty on the Non-Proliferation of Nuclear Weapons, and to the Tlatelolco Treaty, as well as to its adherence to the “Nuclear Suppliers Guidelines” in the Agreement between Argentina, Brazil, the ABACC and the IAEA, signed in Vienna, along with a Protocol of Application, on 13 December 1991 (ratified by Law No. 24113 of 7 September 1992).

The Agreement of June 1996 was ratified by Argentina by Law No. 24869 and published in the Official Journal on 18 September 1997. It entered into force on 29 October 1997 for a period of 10 years, renewable automatically for periods of 5 years each.

The Agreement, in particular, aims to develop at joint research in the areas of reactor safety, management and disposal of radioactive waste, radiation protection, controlled fusion, nuclear applications in agriculture, medicine and industry, the control of nuclear materials, as well as the interaction between nuclear energy and the environment.

Argentina – Greece

Agreement on Co-operation in the Peaceful Uses of Nuclear Energy (1997)

On 17 July 1997, a bilateral Agreement between the Government of the Hellenic Republic and the Government of the Argentine Republic was concluded on co-operation in the peaceful uses of nuclear energy.

The main objective of this Agreement is the promotion of co-operation in the development of peaceful uses of nuclear energy, in accordance with the needs and priorities of the national programmes of the two countries.

The Agreement encourages, in particular, co-operation in the following fields:

- research, development and technology covering research and energy reactors, including nuclear power plants;
- building and operation of nuclear power plants and nuclear fuel cycle installations;
- the nuclear fuel cycle, including research into and use of nuclear resources, production of fuel elements and disposal of radioactive wastes;
- industrial production of materials and equipment;
- production and use of radio-isotopes;
- radiological protection and nuclear safety;
- physical protection of nuclear materials; and
- fundamental and applied research with respect to the peaceful uses of nuclear energy.

The forms of co-operation will include mutual assistance in education and training, exchange of experts, exchange of lecturers for courses and seminars, scholarships, joint working groups, and the exchange of equipment, services and information.

Argentina – United States

Implementing Arrangement for Technical Exchange and Co-operation in the Area of Peaceful Uses of Nuclear Energy (1997)

The Implementing Arrangement entered into force upon signature by both Parties on 16 October 1997. It will remain in force for a period of five years, and will be automatically renewed for further five year periods unless either Party notifies the other in writing three months prior to the expiration of the first Implementing Arrangement and may, in any event, be terminated at the discretion of either Party, upon six months advance notification.

The Implementing Arrangement is made pursuant and subject to the Agreement for Scientific and Technical Co-operation, as extended, entered into between the Parties on 7 April 1972. It is also made to further co-operation in the peaceful uses of nuclear energy, as called for in Article IV of the Treaty on the Non-Proliferation of Nuclear Weapons.

Co-operative activities undertaken pursuant to the Implementing Arrangement may include, *inter alia*, the following:

- exchange of information on scientific and technical activities;
- exchange of scientists, engineers and other specialists for agreed periods of time;
- short term visits by staff or assignment of staff;

- organisation of, and participation in, seminars, workshops and other meetings;
- exchange or loan and provision of samples, materials, instruments, equipment and components for experiments, testing and evaluation; and
- execution of joint studies, projects or experiments, including design, construction and operational activities.

For each joint project the Parties will execute a Project Annex, which will form an integral part of the Implementing Arrangement. Each Project Annex will contain details of its technical scope, management, costs and schedule.

Finally, there are provisions for the general management of the Implementing Arrangement, as well as provisions which address specific issues, such as assignment of staff, intellectual property rights and exchange of equipment and information.

Australia – Indonesia

Agreement Concerning Co-operation in Nuclear Science and Technology (1997)

On 11 November 1997 Australia and Indonesia signed an Agreement Concerning Co-operation in Nuclear Science and Technology. In the preamble to the Agreement the Parties were mindful of their respective commitments to non-proliferation of nuclear weapons and of their safeguards agreements with the IAEA. They also recalled their respective international obligations and national measures in respect of the physical protection of nuclear materials. In that context they agreed to promote, encourage and facilitate co-operation between the two countries in the peaceful use of nuclear energy for social and economic development.

The co-operation envisaged is to include the following areas of nuclear science and technology:

- a) nuclear related safety information, assessment and technology;
- b) radiation protection;
- c) management of radioactive waste;
- d) application of radio-isotopes and radiation;
- e) nuclear medicine;
- f) research and application of neutron beams;
- g) nuclear instrumentation design and development;
- h) nuclear material accountancy and control;
- i) uranium exploration, mining and processing techniques; and

j) other areas as may be mutually decided by the Parties from time to time.

The various forms of collaboration will include exchanges of information and personnel, education and training programmes and joint research and development work. The Agreement will be valid for ten years and will be automatically extended from year to year, unless either Party gives written notice of its intention to terminate six months prior to the expiration date.

People's Republic of China – United States

Implementation of the 1985 Agreement for Co-operation Concerning the Peaceful Uses of Nuclear Energy (1998)

On 19 March 1998 the US Congress approved the implementation of the Agreement for Co-operation Between the Government of the United States of America and the Government of the People's Republic of China concerning Peaceful Uses of Nuclear Energy.

This Agreement, which was signed on 23 July 1985, aims to promote the co-operation between the parties. It enables the transfer of nuclear material, facilities and components, and information or technology concerning nuclear energy to each other (See *Nuclear Law Bulletin* No. 36).

For the implementation of the Agreement, the US President is required under Public Law No. 99-183 to make a certification to the Congress on three matters. The President must certify that (a) the reciprocal arrangements made pursuant to Article 8 of the Agreement have been designed to be effective in ensuring that any nuclear materials, facilities, or components provided under the Agreement shall be utilised solely for intended peaceful purposes; (b) the Government of China has provided additional information on its nuclear non-proliferation policies and that, based on this and all other information available to the United States Government, the People's Republic of China is not in violation of paragraph 2 of section 129 of the 1954 US Atomic Energy Act, as amended; and (c) the obligation to consider favourably a request to carry out activities described in Article 5(2) of the Agreement shall not prejudice the decision of the United States to approve or disapprove such a request.

An additional condition was imposed by the 1990 US Foreign Relations Act, which includes a Presidential certification that China has provided clear and unequivocal assurances to the United States that it is not assisting and will not assist any non-nuclear weapon State in acquiring nuclear explosive devices.

In 1998 President Clinton, after the visit of President of Jiang Zemin, has formally certified that China has met the necessary non-proliferation standards. The US Congress decision was the final step in the procedure for the implementation of the 1985 Agreement.

Agreement of Intent Concerning Peaceful Uses of Nuclear Technology (1997)

The U.S. Department of Energy and China's State Planning Commission signed the Agreement of Intent Concerning Peaceful Uses of Nuclear Technology on 29 October 1997. Its objective is to exchange technical information and to promote co-operative activities relating to

nuclear technologies. The Agreement is the first step toward joint initiatives in reactor technology and safety, advanced in-service inspection of nuclear power plant components, fuel handling and storage, the production of isotopes for medical, industrial and agricultural uses and decontamination and decommissioning. The Agreement also calls for co-operation in establishing systems for export control of nuclear materials, equipment and technologies, nuclear materials control and accounting, physical protection and enhancement of international nuclear safeguards.

This Agreement is expected to pave the way for the negotiation of a broader agreement that will govern future co-operative activities related to nuclear energy and non-proliferation.

France – Lithuania

Protocol of Co-operation (1997)

The Protocol was signed on 21 May 1997 by the *Commissariat à l'Énergie Atomique* (France) and the Lithuanian Minister for the Economy. It entered into force on the same date. Under the Protocol the Parties agree to co-operate in the peaceful uses of nuclear energy.

The areas of co-operation concern support for the safety authority of Lithuania (VATESI), radioprotection, research and development and applied research for non-destructive applications, management of spent fuel and nuclear waste, public information and support for the operator of the Ignalina NPP.

The scientific and technical co-operation which is the object of the Protocol, is intended to lead to industrial and commercial co-operation between the two countries.

Germany – United States

Agreement on Co-operation in Energy Research, Science and Technology, and Development (1998)

The Agreement, between the United States Department of Energy and the German Ministry of Education, Science, Research and Technology, came into force upon signature by both parties on 20 February 1998, and will remain in force for 5 years. It will be renewed automatically for five year periods, unless either Party notifies the other that it intends to permit the Agreement to expire.

The areas of co-operation under the Agreement include:

- energy efficiency and renewable energy;
- fossil fuel energy, including clean coal and natural gas technologies; and
- nuclear energy, including fission and fusion technologies and radioactive waste management.

The forms of co-operation may include:

- exchange of scientists, engineers and other specialists for participation in agreed research activities;
- seminars and workshops;
- promoting energy technologies that are economically competitive and environmentally acceptable;
- development of systems-analysis instruments, computer tools and data bases in support of efforts to reduce greenhouse gases and to minimise environmental impacts;
- participating in joint government-industry activities; and
- joint projects.

The Agreement allows additional public or private organisations in either country to participate as “co-operative entities”. Each co-operative entity will participate at its own expense.

When the Parties agree to undertake a form of co-operation under the Agreement, they may conclude an “Implementing Annex”, which will be subject to the terms of the Agreement. The Implementing Annex will cover the project’s technical scope, cost, schedule, exchange of equipment and any special provisions relating to matters such as intellectual property.

The Agreement also contains detailed provisions on such matters as rules on management, exchange of personnel, equipment and information and intellectual property rights.

Greece – Romania

Agreement on Early Notification of a Nuclear Accident and Exchange of Information on Nuclear Facilities (1997)

On 22 December 1997, a bilateral agreement on Early Notification of a Nuclear Accident and Exchange of Information on Nuclear Facilities was concluded between the Greek Atomic Energy Commission of the Republic of Greece and the National Commission for Control of Nuclear Activities of Romania.

Hungary – Ukraine

Agreement on Early Notification of Nuclear Accidents and Co-operation in the Field of Nuclear Safety (1997)

An Agreement on early notification of nuclear accidents, exchange of information and co-operation in the field of nuclear safety and radiation protection was signed on 13 October 1997. It will enter into force, after official notification by each side, for an indefinite term.

The Agreement covers matters related to the notification of nuclear accidents, exchange of information on nuclear installations and illicit actions concerning nuclear materials and scientific co-operation in the field of nuclear and radiation safety.

Switzerland – United States

Agreement in the Field of Radioactive Waste Management (1997)

This Agreement came into force on the date of its signature by both Parties on 23 December 1997. The Agreement is intended to continue and intensify co-operation in activities related to the field of radioactive waste management and the back-end of the nuclear fuel cycle. The Agreement will continue in force for five years and will be automatically extended for successive five year periods, unless terminated by either Party.

Co-operation under the Agreement may include:

- characterisation of geological formations;
- field and laboratory testing;
- preparation and packaging of radioactive wastes;
- disposal in geologic formations;
- surface and subsurface storage of radioactive wastes;
- environmental and safety issues;
- design and operational issues;
- performance assessment issues;
- transportation requirements;
- public acceptance issues; and
- other areas of co-operation as the Parties may agree.

The forms of co-operation can include the following:

- exchange of scientists, engineers and other specialists for participation in agreed research;
- exchange of scientific and technical information;
- exchanges of samples, materials and equipment for testing;
- organisation of and participation in seminars and other meetings;
- short visits by specialists to the facilities of the Parties;
- observation of and participation in studies dealing with the areas of co-operation; and
- joint projects.

The Agreement also contains general provisions dealing with management under the Agreement, exchange of personnel and intellectual property and information.

MULTILATERAL AGREEMENTS

Intergovernmental Agreements on Co-operation in Transportation of Nuclear Materials (1997-1998)

An intergovernmental agreement on co-operation in the transportation of nuclear materials was signed on 27 November 1997 between Bulgaria, Moldova, Russian Federation and Ukraine. Similarly, an intergovernmental agreement on co-operation in the transportation of nuclear materials was signed on 14 March 1998 between the Czech Republic, Slovak Republic, Russian Federation and Ukraine.

In each case the Agreements regulate the transportation of “special cargo”, defined as meaning any nuclear materials except nuclear waste. Also in each Agreement it is the operator from whose country the special cargo is being transported who is liable in accordance with the Vienna Convention on Civil Liability for Nuclear Damage caused by nuclear incident, up to the moment of transfer of liability to another operator, pursuant to a contract in writing. The Agreements differ somewhat in the manner in which the respective Governments guarantee the fulfilment of the financial obligations of the operators. Under the Bulgaria, Moldova, Russian Federation and Ukraine Agreement this State guarantee covers an amount which does not exceed the minimum amount of liability of the operator under the Vienna Convention. Under the Czech Republic, Slovak Republic, Russian Federation and Ukraine Agreement, however, the State guarantees the fulfilment of the operators financial obligations in accordance with the Vienna Convention, and the guarantee is not expressly limited to the minimum amount of the operators liability under the Convention.

Entry Into Force of the Energy Charter Treaty (1998)

The Energy Charter Treaty, together with the Protocol on Energy Efficiency and Related Environmental Aspects, was opened for signature on 17 December 1994. The 30th ratification of the Treaty took place on 16 January 1998, and, in accordance with its terms, the Treaty came into force 90 days later on 16 April 1998. The Protocol came into force on the same day as the Treaty.

The Energy Charter Treaty covers nuclear materials and fuels through its definition of “Energy Materials and Products” under Article 1(4), by way of a cross reference to Annex EM. That Annex includes the following list of nuclear materials and fuels as falling within the definition:

- a) Uranium or thorium ores and concentrates.
- b) Radioactive chemical elements and radioactive isotopes (including the fissile or fertile chemical elements and isotopes) and their compounds; mixtures and residues containing these products.
 - I. Natural uranium and its compounds.
 - II. Uranium enriched in ^{235}U and its compounds; plutonium and its compounds.
 - III. Uranium depleted in ^{235}U and its compounds; thorium and its compounds.

- IV. Radioactive elements and isotopes and radioactive compounds other than (i), (ii) or (iii).
- V. Spent (irradiated) fuel elements (cartridges) of nuclear reactors.
- VI. Heavy water (deuterium oxide).

The provisions of the Energy Charter Treaty, therefore, have general application to these nuclear materials and fuels. Under Article 7 (Transit) of the Treaty, for example, each Contracting Party is obliged to facilitate the Transit of Energy Materials and Products consistent with the principle of freedom of transit and without distinction as to the origin, destination or ownership of such Energy Materials and Products or discrimination as to pricing on the basis of such distinctions, and without imposing any unreasonable delays, restrictions or charges. Similarly, the provisions of Article 8 (Transfer of Technology) expressly apply to Energy Materials and Products, and, therefore, to the nuclear materials and fuels listed in Annex EM. Through the definitions of “Investment” [Article 1(6)] and “Economic Activity in the Energy Sector” [Article 1(5)] other broad-ranging provisions of the Treaty, such as Article 9 (Access to Capital) and Part III (Investment Promotion and Protection), apply to the trade in nuclear materials and fuel.

A Protocol dealing specifically with nuclear energy was under negotiation until May 1995, but was never concluded and negotiations have not been re-opened since that date.

On 24 April 1998, the Charter Conference agreed on the adoption of the Amendment to the Trade Related Provisions of the Energy Charter Treaty, bringing the trade-related provisions of the Energy Charter Treaty up to date with World Trade Organisation rules. Amongst other changes, the Amendment will open the way for future legally binding tariff commitments for Energy Materials and Products, as well as for Energy-Related Equipment.

French and British Declarations concerning the 1992 OSPAR Convention on the Protection of the Marine Environment of the North-east Atlantic (1997)

Until 1992, two Conventions governed the protection of the marine environment of the North-east Atlantic: the Oslo Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft, signed in 1972, and the Paris Convention for the Prevention of Marine Pollution from Land-based Sources, signed in 1974. The “OSPAR” Convention, which combines these two instruments, strengthens the protection of the geographic zone while taking into account types of pollution which were not covered up until this time. The Oslo and Paris Conventions contained a specific list of substances and products whose polluting effects should be limited or eliminated. The OSPAR Convention takes a more global approach, by defining the general duties of States in reference to various principles including the precautionary principle, the polluter-pays principle, and the principle of optimisation. Four Annexes contain specific provisions governing the protection of the marine environment (See *Nuclear Law Bulletin* No. 50).

In particular, Annex II deals with the prevention and the elimination of pollution caused by dumping activities and incineration and prohibits the dumping of all waste and material other than those listed in Article 3 of Annex II. The dumping of low and medium-level radioactive waste is prohibited. However, an dispensation from this rule was granted to the United Kingdom and France, given that these countries were not prepared, in 1992, to definitively abandon their activities involving the dumping of low and medium-level radioactive waste. This dispensation, which appears

in Article 3.3(b) of Annex II, allowed the United Kingdom and France to carry out dumping of this type of waste, but only after expiry of a fifteen-year period commencing on 1 January 1993. Until this time, these two countries had committed themselves to study alternative land-based options for dumping and to present their findings in this respect at the meeting of the OSPAR Commission in 1997.

In September 1997 both of these countries had made a declaration according to which they abandoned their right to the dispensation which had been granted to them according to the terms of Annex II. This dispensation therefore no longer exists and a regime prohibiting all dumping of radioactive substances in the North-east Atlantic is now in place. This regime will start to apply when the OSPAR Convention comes into force, during 1998.

Status of the Protocol to Amend the Vienna Convention on Civil Liability for Nuclear Damage (1998)

This Protocol was adopted on 12 September 1997 at the conclusion of a Diplomatic Conference convened for this purpose at the headquarters of the IAEA. It was opened for signature on 29 September 1997 during the 40th regular session of the Agency's General Conference in Vienna. As of 12 March 1998, 11 States had signed the Protocol: Argentina, Hungary, Indonesia, Italy, Lebanon, Lithuania, Morocco, Philippines, Poland, Romania and Ukraine.

The Protocol, pursuant to Article 21.1, shall enter into force three months after the date of deposit of the fifth instrument of ratification, acceptance or approval.

An analysis of this Protocol can be found in the chapter "Articles" in this Bulletin.

Status of the Convention on Supplementary Compensation for Nuclear Damage (1998)

This Convention was also adopted on 12 September 1997 and opened for signature on 29 September 1997. As of 12 March 1998, 11 States had signed the Convention: Argentina, Australia, Indonesia, Italy, Lebanon, Lithuania, Morocco, Philippines, Romania, Ukraine and the United States of America.

The Convention, pursuant to Article XX.1, shall come into force on the ninetieth day following the date on which at least 5 States with a minimum of 400,000 units of installed nuclear capacity have deposited an instrument referred in Article XVII.

An analysis of this Protocol can be found in the chapter "Articles" in this Bulletin.

Status of the Convention on Nuclear Safety (1998)

Since the last status report on this Convention in *Nuclear Law Bulletin* No. 59, eight new States, namely Argentina, Austria, Greece, Italy, Luxembourg, Pakistan, Peru and Ukraine, have ratified and one, Singapore, has acceded to the 1994 Convention on Nuclear Safety (as at 15 April 1998).

The Convention entered into force on 24 October 1996.

BIBLIOGRAPHY AND NEWS BRIEFS

BIBLIOGRAPHY

OECD Nuclear Energy Agency

Overview of Nuclear Legislation in Central and Eastern Europe and the NIS, Paris 1998, 128 pages

This study provides an overview of current legislation governing the peaceful uses of nuclear energy in Central and Eastern European countries and the New Independent States.

Revised to include information obtained since its original preparation for internal distribution in October 1995, the current issue, now available to the public as an OECD Document, focuses on the institutional and legal frameworks which have been established in the countries under consideration.

The study follows a systematic format to facilitate research and comparison among the sixteen countries covered.

International Nuclear Law Association

Intersections of National and International Nuclear Law: Collected Papers from the Meeting of the German Branch of INLA held at Meissen on 5 and 6 September 1996, Nomos Verlagsgesellschaft, Baden Baden 1997, 324 pages

This publication contains the papers presented at the 6th Regional Meeting of the German branch of INLA at Meissen, held on 5 and 6 September 1996. The theme of this Meeting was Intersections of National and International Nuclear Law. The three working sessions at this Meeting dealt respectively with legal problems of nuclear waste management, international obligations and national law and current questions of German nuclear law. More than 150 people from economic, legal, scientific and administrative backgrounds attended this event, which is reflected in the variety and renown of the lecturers having contributed to this collection, under the chairmanship of Dr. Norbert Pelzer.

France

Revue Générale Nucléaire – Special Edition on “The law governing nuclear activities”, No. 6, November-December 1997

This issue of the *Revue Générale Nucléaire* is devoted to legal aspects of peaceful nuclear activities. It includes some of the presentations given during the discussions held in Poitiers on 10 March 1997 on liability in the nuclear field, organised by the regional group “Poitou-Charentes” and the technical section “Law and Insurance” of the French Association for Nuclear Energy and the French section of the International Nuclear Law Association.

This study is divided into three main sections: the first is devoted to the law governing radioprotection, the second to non-proliferation and physical protection policies, and the third deals with the legal framework surrounding nuclear activities as well as aspects linked to nuclear third party liability and criminal offences.

Ukraine

Compilation of Ukrainian Nuclear Legislation, 1998, 608 pages

A compilation of Ukrainian legislation in force in the nuclear field has recently been published by the Institute of Energy and Nuclear Law in co-operation with the Institute of State and Law of the National Academy of Science of Ukraine. This text is only available in Ukrainian at present.

It includes the 1995 Law of Ukraine on the Use of Nuclear Energy and Radiation Safety, as revised by the 1996 Law on Introducing Alterations to the Law on the Use of Nuclear Energy and on Radiation Safety and by the 1997 Law on the Introduction of Amendments to certain Ukrainian Legislative Acts in connection with the Accession of Ukraine to the Vienna Convention on Civil Liability for Nuclear Damage. This publication contains details concerning the regulation of the general energy sector and the nuclear sector in particular. Besides the main legislative instruments, it also reproduces some of the implementing regulations for this legislation and ministerial orders in the nuclear field. Further chapters are devoted to instruments in the field of environmental law and international co-operation.

NEWS BRIEFS

OECD Nuclear Energy Agency

International Symposium on Nuclear Liability Issues (1999)

An International Symposium will be organised by the NEA, in co-operation with other international organisations in Hungary during the first week of June 1999. The theme of this Symposium will be nuclear liability issues, particularly in connection with the revision of the Vienna Convention, the adoption of the Convention on Supplementary Compensation for Nuclear Damage and the commencement of the revision exercise for the Paris Convention. Special attention will be devoted to the countries of Central and Eastern Europe and the New Independent States in respect of liability and compensation for nuclear damage.

LIST OF CORRESPONDENTS TO THE NUCLEAR LAW BULLETIN

ALGERIA	Mr. A. CHERF, Radiation Protection and Safety Centre
ARGENTINA	Mr. J. MARTINEZ FAVINI, Legal Advisor, National Atomic Energy Commission
AUSTRALIA	Ms. E. HUXLIN, INIS Information Officer, Australian Nuclear Science and Technology Organisation
AUSTRIA	Dr. J. KRENN, Deputy Director, Division of Nuclear Co-ordination and Non-Proliferation, Federal Chancellery
BELARUS	Mr. V. YATSEVICH, Chairman, State Committee for Supervision of Industrial and Radiation Safety
BELGIUM	Mr. P. STALLAERT, General Director, Technical Safety of Nuclear Installations, Ministry of Employment and Labour
BRAZIL	Mrs. D. FISCHER, Brazilian Association on Nuclear Law Mr. E. DAMASCENO, National Commission for Nuclear Energy
BULGARIA	Mr. A. PETROV, Head, Department of External Relations, Committee on the Use of Atomic Energy for Peaceful Purposes
CANADA	Ms. A. NOWACK, Senior Counsel, Legal Services, Atomic Energy Control Board
CROATIA	Mr. V. ŠOLJAN, Institute of International and Comparative Law, Faculty of Law, University of Zagreb Mr. I. VALCIC, Head, Department for Nuclear Safety, Ministry of Economic Affairs
CZECH REPUBLIC	Mr. F. SURANSKY, Nuclear Energy Section, Ministry of Industry and Trade
DENMARK	Ms. D. RØNNEMOES CHRISTENSEN, Law Department, Ministry of Justice
ESTONIA	Mr. J. SAAR, Head, Air and Radiation Division, Ministry of the Environment
FINLAND	Mr. Y. SAHRAKORPI, Counsellor, Energy Department, Ministry of Trade and Industry
FRANCE	Mrs. D. DEGUEUSE, Legal Department, Atomic Energy Commission
GERMANY	Professor N. PELZER, Institute of Public International Law, University of Göttingen

<i>GREECE</i>	Professor A.A. KATSANOS, President of Greek Atomic Energy Commission
<i>HUNGARY</i>	Professor V. LAMM, Institute for Legal and Administrative Studies, Hungarian Academy of Sciences Mr. Z. SZÖNYI, Head, Division of Governmental Relations, Hungarian Atomic Energy Authority
<i>INDIA</i>	Professor U.V. KADAM, National Law School of India, University of Bangalore
<i>INDONESIA</i>	Mr. S. SULCHAN, Legal and Organisation Division, National Atomic Energy Commission
<i>IRELAND</i>	Ms. M. KELLY, Information Officer, Radiological Protection Institute
<i>ITALY</i>	Mr. F. NOCERA, Department of Energy, National Agency for New Technologies, Energy and the Environment Mr. G. GENTILE, Director, Legal Office, National Electricity Board - ENEL
<i>JAPAN</i>	Mr. SEYAMA, Director, International Affairs and Safeguards Division, Atomic Energy Bureau, STA
<i>KAZAKSTAN</i>	Dr. A.A. KIM, Chief Specialist, Radiation Safety Division, Atomic Energy Agency
<i>REPUBLIC OF KOREA</i>	Dr. K-G. PARK, Associate Professor, Faculty of Law, Korea University
<i>LATVIA</i>	Mr. A. SALMINS, Legal Expert, Ministry of Environmental Protection and Regional Development
<i>LITHUANIA</i>	Dr. V. BIELIAUSKAS Head, Nuclear Energy Division, Ministry of Economy
<i>LUXEMBOURG</i>	Mr. C. BACK, Head, Radiation Protection Division, Health Directorate
<i>MEXICO</i>	Mr. M.J. GONZALEZ ANDUIZA, Legal Affairs Department, Federal Commission on Electricity Ms. G. URBANO, Head, International Affairs Department, National Nuclear Research Institute
<i>NETHERLANDS</i>	Mr. R. VAN EMDEN, Counsellor, Ministry of Finance
<i>NORWAY</i>	Mr. H. ANSTAD, Deputy Director General, Department of Research and Health Promotion, Ministry of Health and Social Affairs
<i>POLAND</i>	Mrs. E. SZKULTECKA, Director, Legal and Organisation Department, National Atomic Energy Agency
<i>PORTUGAL</i>	Mr. H. VIEIRA, Head, Nuclear Energy Division, Directorate General for Energy
<i>ROMANIA</i>	Mr. L. BIRO, National Commission for Nuclear Activities Control

<i>RUSSIAN FEDERATION</i>	Professor A. IOYRISH, Institute of State and Law, Academy of Sciences Dr. O. SUPATAEVA, Institute of State and Law, Academy of Sciences
<i>SLOVAK REPUBLIC</i>	Dr. S. NOVÁK, Head of Legal Division, Nuclear Regulatory Authority
<i>SLOVENIA</i>	Mr. A. ŠKRABAN, Slovenian Nuclear Safety Administration, Ministry of Environmental and Regional Planning
<i>SPAIN</i>	Ms. L. CORRETJER, Ministry of Industry and Energy
<i>SWEDEN</i>	Ms. K. WALLÉN, Senior Legal Advisor, Swedish Nuclear Power Inspectorate
<i>SWITZERLAND</i>	Mr. W.A. BÜHLMANN, Head, Legal Service, Federal Office of Energy
<i>TUNISIA</i>	Mr. M. CHALBI, Ministry of Education and Science, National School of Engineering, Monastir
<i>TURKEY</i>	Dr. D. BOR, Head of the Research, Development and Co-ordination Department, Turkish Atomic Energy Authority
<i>UKRAINE</i>	Mr. Y. KRUPKA, Legal Counsel, Nuclear Regulatory Administration, Ministry for Environmental Protection and Nuclear Safety Mr. Y. KARPICH, Legal Counsel, Nuclear Regulatory Administration, Ministry for Environmental Protection and Nuclear Safety
<i>UNITED KINGDOM</i>	Mrs. J-A MACKENZIE, Legal Service, Department of Trade and Industry
<i>UNITED STATES</i>	Ms. M. NORDLINGER, Office of the General Counsel, United States Nuclear Regulatory Commission Ms. S. ANGELINI, Attorney Adviser, United States Department of Energy
<i>URUGUAY</i>	Dr. D. PEREZ PINEYRUA, Deputy Director, National Atomic Energy Commission
<i>IAEA</i>	Ms. K. RUDOLPH, Senior Legal Officer, Legal Division
<i>EC</i>	Mr. J.M. AVEZOU, Directorate General Energy Mr. J-M COURADES, Directorate General Environment, Nuclear Safety and Civil Protection.
<i>WHO</i>	Ms. G. PINET, Director, Health Legislation

OECD PUBLICATIONS, 2, rue André-Pascal, 75775 PARIS CEDEX 16
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CZECH REPUBLIC

Act No. 18/1997 on the Peaceful Uses of Nuclear Energy and Ionising Radiation and on Amendments and Additions to Related Acts adopted on 24 January 1997*

Part I

PEACEFUL UTILISATION OF NUCLEAR ENERGY AND IONISING RADIATION

SECTION ONE

INTRODUCTORY PROVISIONS

Article 1

Scope

This Act regulates:

- a) the method of utilising nuclear energy and ionising radiation, and conditions for the performance of practices related to nuclear energy utilisation and radiation practices;
- b) the system for protection of people and the environment from undesirable effects of ionising radiation;
- c) obligations during preparation for and implementation of intervention intended to reduce exposures to natural sources and exposures due to radiation accidents;
- d) specific requirements for civil liability in the case of nuclear damage;
- e) conditions for safe management of radioactive waste;
- f) performance of state administration and supervision within nuclear energy utilisation, within radiation practices and over nuclear items.

* This is an unofficial translation kindly provided by the Czech authorities. Only the Czech text as published in the Czech official journal has the force of law.

Article 2

Basic Terms

For the purposes of this Act,

- a) activities related to nuclear energy utilisation means:
 - 1. the siting, construction, commissioning, operation, reconstruction and decommissioning of nuclear installations;
 - 2. designing nuclear installations;
 - 3. designing, manufacturing, repairs and verification of nuclear installation systems or their components, including materials used for their production;
 - 4. designing, manufacturing, repairs and verification of packaging assemblies for the transport, storage or disposal of nuclear materials;
 - 5. handling of nuclear materials and of selected items and, in the case of their use in the nuclear field, also of items of dual use;
 - 6. research and development into the activities mentioned in points 1 to 5;
 - 7. professional training of personnel, specialised from the nuclear safety viewpoint for the activities stated under point 1;
 - 8. transport of nuclear materials;

- b) radiation practice means any human activity introducing sources of exposure or exposure pathways or extends exposure to additional people or modifies the network of exposure pathways from existing sources, so as to increase the exposure or the likelihood of exposure of people or the number of people exposed, particularly the production, import, operation and other handling of ionising radiation sources, including radioactive waste or release of radionuclides into the environment. Exposure means exposure of people and the environment to ionising radiation;

- c) ionising radiation source means:
 - 1. a radionuclide source which is a substance or an object containing radionuclides or contaminated by radionuclides to a level exceeding the values set out in implementing regulations;
 - 2. an equipment containing a radionuclide source;
 - 3. an equipment, the operation of which generates radionuclides;
 - 4. an equipment, the operation of which generates ionising radiation with an energy exceeding 5 keV.

In relation to the risk to human health and the environment due to ionising radiation, ionising radiation sources are categorised as: insignificant sources, handling of which is not associated with any possibility of radiation accident or with generation of radioactive waste; minor sources, management of which is not associated with any possibility of radiation accident, although radioactive waste may be generated; simple sources, during management of which a possibility of radiation accident exists, although radiation accidents with acute health effects are excluded; significant sources, during management of which consideration must be given to the possibility of radiation accidents which may also be associated with acute health effects, although there is no danger of radiation emergencies; and very significant sources, for which consideration must be given to the possibility of a radiation emergency. The criteria for source categorisation shall be set out in an implementing regulation;

- d) nuclear safety means the condition and ability of a nuclear installation and its servicing personnel to prevent the uncontrolled development of a fission chain reaction or an inadmissible release of radioactive substances or ionising radiation into the environment, and to reduce the consequences of accidents;
- e) radiation protection means a system of technical and organisational measures to reduce exposure of people and the environment;
- f) physical protection means a system of technical and organisational measures preventing unauthorised activities with nuclear installations, nuclear materials and selected items;
- g) emergency preparedness means an ability to recognise the occurrence of a radiation accident and, upon its occurrence, to carry out measures specified in emergency plans;
- h) nuclear installation means:
 - 1. constructions and operating units containing a nuclear reactor utilising a fission chain reaction;
 - 2. facilities for the production, processing, storage and disposal of nuclear materials;
 - 3. repositories of radioactive waste, with the exception of repositories containing only natural radionuclides;
 - 4. facilities for the storage of radioactive waste with an activity exceeding the values set out in an implementing regulation;
- i) *classified equipment* means nuclear-safety-related components or systems of nuclear installations assigned to safety classes according to their significance for nuclear installation operation safety, according to the safety function of the system to which they belong, or according to the relevance of their possible breakdown. The criteria for classified equipments to be assigned and categorised into safety classes shall be set out in an implementing regulation;

- j) nuclear item means:
1. nuclear materials which are:
 - aa) source materials represented by uranium containing a mixture of isotopes occurring in nature, uranium depleted in the ^{235}U isotope or thorium and each of these items in the form of metal, alloy, chemical compound or concentrate, as well as materials containing one or more of these items in a concentration or amount exceeding values set out in an implementing regulation;
 - bb) special fission materials represented by ^{239}Pu , ^{233}U , uranium enriched in the isotope ^{235}U or ^{233}U and materials containing one or more of these radionuclides, except initial materials exceeding in concentration or amount values set out in an implementing regulation;
 - cc) other materials, should an implementing regulation so determine;
 2. classified items which are materials, equipment or technologies designed and manufactured to be used in the nuclear field, a list of which shall be provided in an implementing regulation;
 3. dual-use items, which are materials, equipments and technologies not designed and manufactured to be used in the nuclear field but which may be utilised there, a list of which shall be provided in an implementing regulation;
- k) *radiation accident* means an event resulting in an inadmissible release of radioactive substances or ionising radiation, or an inadmissible exposure of people;
- l) *radiation emergency* means a radiation accident requiring measures to be taken to protect the public and the environment;
- m) *emergency plan* means a set of planned measures to deal with a radiation accident or radiation emergency and to limit their consequences. An emergency plan designed for a nuclear installation premises or a workplace with ionising radiation source is called an on-site emergency plan. An emergency plan for transport of nuclear materials or ionising radiation sources is called emergency rule. An emergency plan for a region in a vicinity of a nuclear installation or a workplace with ionising radiation source where, based on results of analyses of potential effects of a radiation emergency, emergency planning requirements are in force (hereinafter referred to as an “emergency planning zone”), is called an off-site emergency plan;
- n) *decommissioning* means activities aimed at releasing nuclear installations or workplaces with an ionising radiation source, following the termination of their operation, for their utilisation for other purposes, or at exempting them from the effect of this Act;
- o) *radioactive waste* means waste substances, objects or equipments for which no further use is foreseen by their owner, with a radionuclide content or surface radionuclide contamination exceeding values permitting their discharge into the environment; these values shall be set out in an implementing regulation;

- p) *radioactive waste and spent fuel storage* means a temporary emplacement of radioactive waste or spent or irradiated nuclear fuel for a period restricted in advance into areas, facilities or installations designed for this purpose;
- q) *radioactive waste disposal* means a permanent emplacement of radioactive waste into areas, facilities or installations without the intention of its retrieval;
- r) *radioactive waste repository* means an area, facility or structure at the surface or underground used for the disposal of radioactive waste;
- s) *workplace with ionising radiation source* means areas where ionising radiation sources are utilised or in any other manner intentionally and purposefully handled;
- t) *limits and conditions for the safe operation of a nuclear installation* means a set of unambiguously defined conditions for which it is proven that operation of a nuclear installation is safe. This set shall comprise data on admissible parameters, requirements for the operability of the installation, protective system settings, requirements for personnel activity and organisational measures to meet all the defined conditions for design operational modes.

Article 3

Competence of the State Office for Nuclear Safety

- (1) State administration and supervision of the utilisation of nuclear energy and ionising radiation and in the field of radiation protection shall be performed by the State Office for Nuclear Safety¹ (hereafter referred to as “the Office”).
- (2) The Office:
 - a) shall carry out state supervision of nuclear safety, nuclear items, physical protection, radiation protection and emergency preparedness on the premises of nuclear installations or workplaces with an ionising radiation source and shall inspect the adherence to the fulfilment of the obligations arising out of this Act;
 - b) shall issue licences to perform practices governed by this Act and shall issue type-approvals for packaging assemblies for transport and storage of nuclear materials and radionuclide sources given in an implementing regulation, for ionising radiation sources and for other products;
 - c) shall issue authorisations for activities performed by classified workers;
 - d) shall approve documentation, programmes, lists, limits, conditions, methods of physical protection assurance, emergency rules and, subject to discussion with the relevant District

1. Article 1 (4) of Act of the Czech National Council No. 21/1993 Coll., amending Act of the Czech National Council No. 2/1969 Coll., on the Establishment of Ministries and Other Central Authorities of State Administration of the Czech Socialist Republic, in the wording of subsequent regulations, and by which further measures in the system of central authorities of state administration of the Czech Republic are executed.

Council of compatibility with off-site emergency plans, on-site emergency plans and their modifications;

- e) shall establish conditions, requirements, limits, constraints and values for exemption from the effect of this Act;
- f) shall establish emergency planning zones and shall define areas of a workplace with an ionising radiation source where specific preventive and safety measures for handling of ionising radiation sources are required (hereafter referred to as the “controlled area”);
- g) in accordance with an implementing regulation, shall establish requirements to ensure emergency preparedness of licensees, and shall inspect their fulfilment;
- h) shall monitor and assess the exposure status and regulate exposure of people;
- i) shall provide information to municipalities and District Councils concerning radioactive waste management within their territory of administration;
- j) shall co-ordinate the activity of the National Radiation Monitoring Network, the functions and organisation of which shall be set out in an implementing regulation, shall provide for the functioning of its head-office, and shall provide for the activities of an Emergency Response Centre and for an international exchange of information on the radiation situation;
- k) shall establish State and Professional examination commissions for verification of special professional competence of classified workers, and shall issue statutes for these commissions and specify activities directly affecting nuclear safety and activities especially important from the radiation protection viewpoint;
- l) shall maintain a State system of accounting for and control of nuclear materials and establish requirements for accounting for and methods for control of nuclear materials;
- m) shall maintain a national system for registration of licensees, registrants, imported and exported selected items, ionising radiation sources, and a record exposure of the public and exposure of persons coming into contact with ionising radiation sources at their work (hereinafter referred to as “exposed workers”);
- n) shall ensure, by means of the National Radiation Monitoring Network and based on assessment of the radiation situation, the availability of background information necessary to take decisions aimed at reducing or averting exposure in the case of a radiation emergency;
- o) shall approve a classification of nuclear installations or their components and nuclear materials into appropriate categories, from the physical protection aspect;
- p) shall ensure international co-operation within its sphere of competence and, in particular, shall be an intermediary for technical co-operation with the International Atomic Energy Agency;
- q) shall take decisions ensuring management of nuclear items or radioactive waste if their owner or generator proceeds in contravention of this Act and fails to remedy conditions that have arisen;

- r) shall be obliged to provide the public with adequate information concerning the results of its activities, unless they are subject to State, professional or commercial secrecy, and once a year to publish a report on its activities and submit it to the Government of the Czech Republic and to the public.

SECTION TWO

GENERAL CONDITIONS FOR PERFORMANCE OF PRACTICES RELATED TO NUCLEAR ENERGY UTILISATION, RADIATION PRACTICES AND INTERVENTIONS TO REDUCE EXPOSURE

Article 4

- (1) Nuclear energy may be utilised in accordance with international commitments of the Czech Republic² solely for peaceful purposes.
- (2) Whoever utilises nuclear energy or performs radiation practices or interventions to reduce natural exposure or exposure due to radiation accidents must ensure that his or her action is justified by the benefits outweighing the risks arising or liable to arise from these activities.
- (3) Whoever performs practices related to nuclear energy utilisation or radiation practices shall proceed in such a manner that nuclear safety and radiation protection are ensured as a matter of priority.
- (4) Whoever utilises nuclear energy or performs radiation practices or interventions to reduce natural exposure or exposure due to radiation accidents must maintain a level of nuclear safety, radiation protection, physical protection and emergency preparedness such that the risk to human life and health and to the environment shall be kept as low as reasonably achievable, economic and social factors being taken into account. An implementing regulation shall establish the technical and organisational requirements and guidance levels of exposure, which are considered to be sufficient to demonstrate a reasonably achievable level, or an alternative procedure to demonstrate this level.
- (5) Intervention measures intended to avert or reduce the exposure during a radiation accident shall always be performed if the expected exposure of people approaches levels at which it causes acute damage to health, or when such measures are expected to provide more benefit than harm. An implementing regulation shall set guidance levels and details on rules for adoption of measures.
- (6) Whoever performs radiation practices shall reduce exposure of people so that the total exposure caused by a possible combination of exposure from all radiation practices does not exceed the specified limits. The Office shall establish the exposure limits in an implementing regulation. The Office is authorised to set constraints to ensure that limits are not exceeded taking into account exposure from other radiation practices. However:

2. Decree No. 61/1974 Coll. of the Foreign Minister, on the Non-Proliferation Treaty. Decree No. 62/1974 Coll. of the Foreign Minister, on the Treaty on Prohibition of Siting of Nuclear Weapons and Other Weapons of Mass Destruction on the Seabed and the Ocean Floor and the Subsoil thereof.

- a) exposure of patients to ionising radiation, as a part of medical diagnosis or treatment performed on them (hereinafter referred to as “medical exposure”), shall not be subject to the limits. The Office is authorised to set exposure guidance levels corresponding to reasonably achievable levels of radiation protection;
- b) exposure to natural sources shall not be included in exposure limits, except exposure to those natural sources that are utilised intentionally and consciously and except those natural sources that occur at workplaces with an ionising radiation source set out in an implementing regulation, where exposure from these sources cannot be ignored;
- c) exposure of persons participating in interventions in the event of a radiation accident shall not exceed ten times the limit laid down for exposed workers, unless it is a matter of saving human lives or preventing the development of a radiation accident potentially causing extensive economic and social consequences. These persons must demonstrably be acquainted with the risks relating to such intervention.

(7) Any person performing or providing for practices related to nuclear energy utilisation or radiation practices, except practices as in Article 2, (a), point 6), must have an implemented quality assurance system, to the extent and in the manner set out in an implementing regulation, aimed at achieving the required quality of a relevant item, including tangible or intangible products, processes or organisational arrangements, with respect to the importance of this item from the aspect of nuclear safety and radiation protection. The implementing regulation shall set basic requirements for quality assurance of selected equipments with respect to their safety classification.

(8) For the purpose of physical protection, nuclear installations or their parts shall be placed in category I, II or III. From the aspect of physical protection assurance, guarded, protected and internal areas in nuclear installations must be specified. The classification and the specification are to be carried out from the aspect of the relevance of possible effects on nuclear safety in the event of unauthorised activities. Details concerning the classification and specification, together with the method and scope of physical protection shall be laid down in detail in an implementing regulation.

(9) For the purpose of physical protection, nuclear materials shall be placed in category I, II or III. Classification of nuclear materials is performed in terms of its type, weight, enrichment and with regard to the consequences of its misuse. Details concerning the classification of nuclear materials into appropriate categories, together with the manner and scope of physical protection, shall be laid down in an implementing regulation.

(10) For radiation protection purposes, at workplaces with an ionising radiation source, depending on the manner of handling of ionising radiation sources, a controlled area shall be specified, and depending on the technical arrangement of the ionising radiation source the workplace with an ionising radiation source shall be categorised in category I, II or III. The Specification of a controlled area and the categorisation of a workplace with an ionising radiation source shall be made with due regard to the seriousness of possible exposure of people and the environment. Details of the specification of a controlled area and the categorisation of ionising radiation source workplaces into the appropriate category, together with the manner and scope of radiation protection, shall be laid down in an implementing regulation.

Article 5

- (1) International transfers of nuclear items into States not owning nuclear weapons that would be in breach of commitment of the Czech Republic under international agreements² are prohibited.
- (2) An importation of radioactive waste into the territory of the Czech Republic is prohibited, except for the re-importation of ionising radiation sources produced in the Czech Republic or radioactive waste originated from materials exported from the Czech Republic, for the purpose of their processing or reprocessing, that has been approved by the Office.
- (3) It is prohibited for persons other than persons authorised so to do under Article 26 and 48 (1) to dispose of radioactive waste on the territory of the Czech Republic.

Article 6

Exposure to natural sources

- (1) If natural exposure sources are intentionally and consciously utilised, including mining and processing of uranium ore subject to a specific Act³, their handling is subject to the provisions of this Act to the same extent as that of other ionising radiation sources.
- (2) Intervention measures to reduce natural exposure do not need to be taken if the exposure cannot be reduced by human action to an extent where the benefits exceed the costs of such measures and outweigh the detriment caused by the exposure or by these measures. An implementing regulation shall establish guidance levels for the evaluation of such measures, including criteria for benefit assessment and guidance levels for exposure of people as a result of an occurrence of radon and its decay products in the indoor air.
- (3) Producers and importers of construction materials and suppliers of water into public water distribution networks are required to ensure systematic measurement and evaluation of the content of natural radionuclides in construction materials produced and water supplied and, to the extent set out in an implementing regulation, to keep a record of the results and communicate them to the Office. In the event that the content of natural radionuclides exceeds the values laid down in an implementing regulation, the construction materials must not be introduced into distribution and the water must not be supplied into public water distribution networks.

Article 7

Medical exposure

- (1) Under Article 9(1) (i), medical exposure may only be performed by the holder of a licence to handle ionising radiation sources. Only ionising radiation sources of a type approved by the Office may

2. *See footnote n°2.*

3. Act No. 61/1988 Coll. of the Czech National Council, on Mining Operations, Explosives and the State Mines Administration, in the wording of subsequent regulations.

be used for medical exposure, or radioactive pharmaceuticals registered in accordance with specific regulations⁴.

(2) Details of conditions of medical exposure, guidance levels for exposure of people with regard to a therapeutic effect on patient health, requirements for quality assurance programmes for medical actions and functions and requirements for special professional qualification of persons participating in these functions shall be laid down in an implementing regulation.

Article 8

Discharge of Radionuclides into the Environment

(1) Materials, substances and objects containing radionuclides or contaminated by them may be used outside of workplaces with an ionising radiation source, may be released into water or into the air, stored in a dump or otherwise discharged into the environment, if they do not contain radionuclides, nor are contaminated by them to an extent exceeding values as laid down in an implementing regulation. In the event that the content of radionuclides exceeds the value at which their release into the environment is permitted, but the material is not radioactive waste, it shall only be possible to discharge such substances into the environment subject to a licence issued by the Office under Article 9(1) (h). Following their discharge into the environment, these materials, substances and objects shall not be further monitored for the purposes of radiation protection, and a licence under Article 9(1) (i) shall not be required for their handling.

(2) In the event that a licence to discharge substances into the environment is issued by a Ministry or other administrative body under specific regulations⁵, and the content of radionuclides is one of the aspects under consideration for issue of the licence, approval by the Office is an obligatory basis for issue of the licence.

SECTION THREE

CONDITIONS FOR NUCLEAR ENERGY AND IONISING RADIATION UTILISATION

Article 9

Licences for Particular Practices

- (1) A licence issued by the Office is required for:
- a) siting of a nuclear installation or a workplace with very significant ionising radiation source;

4. Act No. 20/1966 Coll., on Health Care for People, in the wording of subsequent regulations.

5. E.g. Act No. 138/1973 Coll., on Waters (the Water Act), in the wording of subsequent regulations, and Act No. 309/1991 Coll., on Protection of the Air from Contaminating Substances (the Air Act), in the wording of subsequent regulations.

- b) construction of a nuclear installation or a workplace with very significant ionising radiation source;
- c) particular stages, laid down in an implementing regulation, of nuclear installation commissioning;
- d) operation of a nuclear installation or a workplace with significant or very significant ionising radiation source;
- e) restart of a nuclear reactor to criticality following a fuel reload;
- f) reconstruction or other changes affecting nuclear safety, radiation protection, physical protection and emergency preparedness of a nuclear installation or a workplace with significant or very significant ionising radiation source;
- g) decommissioning of a nuclear installation or a workplace with significant or very significant ionising radiation source; the decommissioning process shall be established in an implementing regulation;
- h) discharge of radionuclides into the environment;
- i) handling of ionising radiation sources to the extent and in the manner established in an implementing regulation;
- j) radioactive waste management;
- k) importation or exportation of nuclear items or transit of nuclear materials and selected items;
- l) handling of nuclear materials;
- m) transport of nuclear materials and radionuclide sources laid down in an implementing regulation; this licence does not relate to the person performing the transport, or to the carrier, unless he is simultaneously the shipper, or consignor or consignee;
- n) professional training of classified workers of nuclear installations and classified workers of workplaces with an ionising radiation source;
- o) re-importation of radioactive waste originated in the processing of materials exported from the Czech Republic.

(2) Licences issued by the Office under (1) do not substitute licences or authorisations issued by other administrative bodies under specific regulations⁶.

Article 10

- (1) A licence shall be issued on condition that:
- a) the natural person to whom the licence is to be issued, and his responsible representative, if any, have reached the age of 21, are competent to perform legal acts, are persons of probity, are professionally competent and permanently residing in the Czech Republic; the requirement for the applicant to be professionally competent is waived if it is met by his legal representative;
 - b) members of a statutory body or representatives of a legal person to whom a licence is to be issued must have reached the age of 21, be competent to perform legal acts, be persons of probity, and at least one member of the statutory body or one authorised agent must be professionally competent.
- (2) A person to whom a licence has been issued (hereinafter referred to as “the licensee”) shall communicate to the Office without delay any change that may occur in facts specified in (1).
- (3) Performance of practices under Article 9(1) or their stages shall not commence before the licence issued by the Office enters into legal force.

Article 11

Probity

For the purposes of this Act, a person is considered to be of probity if he has not been legally sentenced for a criminal offence involving negligence, where the facts of the case are associated with licensed activities, or for a criminal offence committed with intent.

Article 12

Professional Competence

Under Article 10 professional competence means:

6. E.g. Act No. 455/1991 Coll., on Trade Enterprises (the Trade Act), in the wording of subsequent regulations, Act No. 222/1994 Coll., on Conditions for Enterprise and the Performance of State Administration in Power Generation Industries and on State Inspection for Power Generation, Act No. 50/1976 Coll., on Land Planning and Construction Regulations (the Construction Act), in the wording of subsequent regulations, Act No. 21/1997 Coll., on Control of Importation and Exportation of Goods and Technologies Subject to International Control Regimes, Act No. 44/1988 Coll., on Protection and Use of Mineral Resources (the Mining Act), in the wording of subsequent regulations, Act of the Czech National Council No. 61/1988 Coll., in the wording of subsequent regulations.

- a) a university graduate in the respective field of specialisation and with a minimum of three years on-job experience in the field, for practice related to nuclear energy utilisation;
- b) a university graduate in the respective field of specialisation and with a minimum of three years on-job experience in the field, or graduate of a relevant secondary technical school having GCE and six years of on-job experience in the field, for radiation practices.

Article 13

Licence Application

- (1) A licence application shall contain:
 - a) for a natural person: name and surname, birth registration number, residential address; or name and surname, birth registration number and residential address of his/her responsible representative, if one is appointed; for a legal person: name and legal form, registered office, registration number in the Companies Register; name and surname, residential address of the person or persons who constitute its statutory body (hereinafter referred to as “identification”) and the registration number if already assigned by the Office;
 - b) the subject and scope of practice for which the licence is requested, the location where the practice is to be performed and the manner in which it will be carried out, the period of its existence and the manner of its termination.
- (2) A licence application shall be signed by the applying natural person or by the statutory body of the applying legal person or by another representative of the statutory body, authorised in a Power of Attorney.
- (3) The following documents shall be attached to a licence application:
 - a) a certificate of extract from the Criminal Record for the natural person and for his responsible representative, if one is appointed; a certificate of extract from the Criminal Record for all members of statutory body or authorised agents, in the event that the applicant is a legal person; the certificates shall be dated within three months of the licence application date;
 - b) Certificate of Incorporation in the case of legal person entering on the Companies Register;
 - c) a document proving professional competence of a natural person for the performance of the practice being licensed, or a document proving professional competence of a responsible representative, if appointed, in the event that a natural person submits the application, or a document proving professional competence for the performance of the practice being licensed of at least one of the members of the statutory body or authorised agent in the event that a legal person submits the application;
 - d) the documentation required for the particular practices being licensed. The content of this documentation is listed in an Appendix to this Act. The scope and form of the documentation to be approved by the Office concerning the activities subject to licence, shall be laid down in implementing regulations;

- e) a certificate of land ownership in the case of application for a construction licence for a nuclear installation or very significant ionising radiation source;
 - f) an insurance certificate covering nuclear damage liability insurance or a certificate of other financial security as in Article 36;
 - g) in the event that radioactive waste is to be generated as part of the licensed activities, a document demonstrating safe management of radioactive waste, including associated funding of this management;
 - h) in the event of importation or transit of nuclear materials or radionuclide sources, a document demonstrating that they will be taken back if the importation or transit is not completed.
- (4) An environmental impact assessment covered by a specific Act⁷ is a prerequisite for issue of a licence under Article 9(1) (a) and (g).
- (5) An approval issued by the Office of a quality assurance programme for the licensed practice is a prerequisite for issue of a licence under Article 9(1) (a) to (g) and (i), (j), (l) and (n). An approval of a quality assurance programme for the design phase before starting proposed activities affecting nuclear safety or radiation protection and an approval of the quality assurance programme for construction activities are a prerequisite for a licence granted under Article 9(1) (b). Requirements for the content of quality assurance programme and quality system shall be laid down in implementing regulation.
- (6) An approval issued by the Office of the method used to ensure physical protection of nuclear installations and nuclear materials is a prerequisite to the issue of a licence under Article 9(1) (c), (d), (e), (f), (g), (k), (l), and (m). Requirements for the method used to ensure physical protection shall be laid down in an implementing regulation.
- (7) An approval issued by the Office of the on-site emergency plan or emergency rules is a prerequisite to the issue of a licence under Article 9(1) (c), (d), (e), (f), (g), (i), (j), (m) and (o). Requirements for their content, including details on how to ensure emergency preparedness, shall be laid down in an implementing regulation.
- (8) The Office may require supplementary documentation. The documents under (3) (a), (b) and (c) do not need to be submitted if the applicant has received a registration number under a previous licensing procedure and there have been no changes to the information provided in the documentation. In such case the applicant shall provide an affidavit only, stating that no changes have occurred in documents required under (3) (a), (b) and (c).

Article 14

- (1) In administrative proceedings, the Office shall proceed independently of the proceeding of any other administrative body. The applicant shall be the only participant in the proceeding.

7. Act of the Czech National Council No. 244/1992 Coll., on Environmental Impact Assessment.

- (2) The Office shall take a decision on the issue of a licence having verified that the applicant has fulfilled all the conditions established in this Act and in implementing regulations.
- (3) From commencement of licence proceedings for a particular practice, the Office shall take a decision within the following time period:
- a) four months, in the case of a licence for siting of a nuclear installation or very significant ionising radiation source;
 - b) one year, in the case of a licence for construction of a nuclear installation or very significant ionising radiation source;
 - c) six months, in the case of a licence for the first fuel load into a reactor, under Article 9(1) (c), and 10 days in the case of other stages of commissioning;
 - d) 24 hours, in the case of a licence under Article 9(1) (e); the procedure for submission and assessment of required documentation shall be laid down in implementing regulation;
 - e) 60 days in the case of other licences for particular practices.
- (4) A licence represents at the same time an approval as required by a specific Act⁸.

Article 15

Requisites of Licence

- (1) In deciding on the issue of a licence, the Office:
- a) shall specify identification of the applicant and the assigned registration number;
 - b) shall define the subject and scope of the practice being licensed;
 - c) shall set conditions for performance and termination of the practice being licensed, as required from the aspect of nuclear safety, radiation protection and physical protection and, subject to discussion with the District Authority, conditions for emergency preparedness;
 - d) shall specify the period for which the licence is issued.
- (2) An integral part of the licence statement shall be an approval of documentation, if this is required in the Appendix to this Act. A single decision may cover several repeated or interrelated activities.

8. E.g. Act No. 50/1976 Coll., in the wording of subsequent regulations.

Article 16

Alteration, Cancellation and Cessation of Licence

- (1) Without a previous licence provided by the Office, no installation modifications nor other technical or organisational changes with an impact on nuclear safety, radiation protection, physical protection or emergency preparedness may be performed. Changes influencing the off-site emergency plan may only be performed subject to an agreement with the relevant District Authority.
- (2) A licence is not required to take urgent interventions aimed at averting a radiation accident or dealing with its consequences. Such intervention shall be taken without delay and shall be demonstrably communicated to the Office.
- (3) The Office may modify conditions set out in the licence in the event of a change in the circumstances impacting on nuclear safety, radiation protection, physical protection or emergency preparedness under which the licence is issued, or as a response to an application by the licensee. The conditions of a licence impacting on off-site emergency plan may be established and altered only subject to agreement with the relevant District Authority.
- (4) In the event of a licensee violating his obligations as established in this Act or by other regulations or conditions laid down in the licence issued by the Office, the Office may restrict or suspend performance of the licensed practice.
- (5) The Office shall withdraw the licence if the licensee:
 - a) ceases to fulfil the obligations on which the issue of licence is based or does not fulfil his obligations as established in this Act or does not remove, within a specified period, deficiencies identified by the Office;
 - b) applies in writing for a withdrawal, and proves that he has ensured nuclear safety and radiation protection.
- (6) A licence shall terminate:
 - a) in the case of natural persons, in the event that the person dies or is declared to be dead;
 - b) on the date a legal person which is a licensee ceases to exist;
 - c) upon adjudication of bankruptcy or rejection of adjudication of bankruptcy due to a lack of assets;
 - d) on expiry of the period for which it was issued;
 - e) by decision of the Office to cancel the licence.
- (7) Before a licence is terminated, the licensee shall, with the approval of the Office, provide on a contractual basis a legal successor or ensure safe termination of practices related to nuclear energy utilisation or radiation practices.

Article 17

General Obligations of Licensees

- (1) A licensee under Article 9(1), shall, besides other obligations established in law:
- a) ensure nuclear safety, radiation protection, physical protection and emergency preparedness, including its verification, in the scope appropriate to the particular licences;
 - b) assess in a systematic and comprehensive manner the fulfilment of conditions set in Article 4, from the aspect of the current level of science and technology, and ensure that the assessment results are put into practice;
 - c) comply with the conditions of the licence issued by the Office, proceed in accordance with approved documentation and investigate, without delay, any breach of such conditions or procedures and take remedial measures and measures to prevent repetition of such situations. Any case when exposure limits or limits for safe operation of a nuclear installation have been exceeded or violated shall be reported to the Office without delay;
 - d) comply with technical and organisational conditions for safe operation of nuclear installations, ionising radiation sources and workplaces with ionising radiation source as laid down in an implementing regulations, comply with the approved quality assurance programme and adhere to specific requirements for uniformity and correctness of measurements and measuring devices to the extent laid down in an implementing regulation;
 - e) provide co-operation as required for performance of inspection activities by the Office under Article 39 and provide co-operation for persons called upon by the Office in order to assess expert issues related to the performance of an inspection;
 - f) participate in the functioning of the National Radiation Monitoring Network to the extent established in a government ordinance under Article 19(3);
 - g) introduce into circulation only ionising radiation sources that bear the specified labels and are accompanied by appropriate documentation and are in type-approved transport packaging;
 - h) allow authorised persons only to handle nuclear materials, radioactive waste and ionising radiation sources and to handle them in accordance with this Act;
 - i) entrust performance of the specified activities only to such persons as fulfil conditions of special professional competence and meet requirements verified in a manner established in a specific regulation⁹, and in good physical and psychological health;

9. Act No. 102/1971 Coll., on Protection of State Information, in the wording of subsequent regulations.

- j) report to the Office without delay any change or event impacting on nuclear safety, radiation protection, physical protection, handling of nuclear materials or emergency preparedness, and changes in any circumstances on which issue of the licence was based;
 - k) provide the public with information on maintenance of nuclear safety and radiation protection which is not subject to State, professional or commercial secrecy.
- (2) A licensee shall submit to the Office for approval:
- a) documentation mentioned in the Appendix to this Act and quality assurance programmes as in Article 4(7);
 - b) commissioning and decommissioning programmes and non-standard programmes or tests affecting nuclear safety as specified in the licence;
 - c) transport, storage, loading and reloading of nuclear fuel and related activities programmes as specified in the licence;
 - d) a list of important working activities impacting on nuclear safety, competence requirements, professional training and method of its verification;
 - e) assignment of nuclear installations and nuclear materials to categories appropriate from the aspect of physical protection;
 - f) the on-site emergency plan and emergency rules;
 - g) changes to the documentation specified in a) to f) above.
- (3) A licensee shall submit to the Office a proposal for designation of an emergency planning zone and for delineation of a controlled area.

Article 18

Obligations from the Aspect of Nuclear Safety, Radiation Protection, Physical Protection and Emergency Preparedness

- (1) A licensee shall also:
- a) monitor, measure, evaluate, verify and record values, parameters and facts with an impact on nuclear safety, radiation protection, physical protection and emergency preparedness, to the extent laid down in implementing regulations;
 - b) account for and control of nuclear materials, archive associated records and report to the Office, as laid down in an implementing regulation, results of physical inventory taking and material balance of nuclear materials and any changes in nuclear materials inventory;
 - c) keep and archive records of ionising radiation sources, facilities, materials, activities, quantities and parameters and other facts impacting on nuclear safety, radiation protection,

physical protection and emergency preparedness, and submit the recorded information to the Office in the manner set out in an implementing regulation;

- d) keep production of radioactive waste and spent nuclear fuel to the minimum necessary level;
- e) prepare and submit to a legal person authorised to dispose of radioactive waste under Article 26 data on short-term and long-term production of radioactive waste and spent nuclear fuel together with other background information to determine the amount and method of transfer of payments to the nuclear account;
- f) keep records of radioactive waste by type of waste in such a manner that all characteristics affecting its safe management are apparent;
- g) allow access and provide necessary co-operation for performance of inspection activities to International Atomic Energy Agency inspectors, as in Article 39(5), and to persons called upon by the Office to assess expert aspects of inspected activities;
- h) steadily create a sufficient financial reserve for decommissioning of nuclear installations or workplaces with a significant or very significant ionising radiation source so that financial resources are available for the needs of preparation and implementation of decommissioning, at the required time and in the required amount, in line with the decommissioning method proposal approved by the Office. The reserve shall be an expenditure for generating, ensuring and maintaining revenues¹⁰. Assets forming part of the created reserve may not be included in bankruptcy assets¹¹;
- i) ensure systematic supervision of observance of nuclear safety, radiation protection, physical protection and emergency preparedness, including verification of emergency preparedness;
- j) ensure health examinations for personnel who are exposed workers, and verification of the physical and mental competence of personnel performing activities directly impacting on nuclear safety;
- k) ensure conditions for pregnant and breastfeeding women working within a controlled area such that a foetus or a breastfed infant receives the same level of radiation protection as any member of the public;
- l) verify probity and fulfilment of requirements, verified by a method specified in a specific regulation⁹, on the part of personnel and persons handling category I and II nuclear materials, providing physical protection of nuclear installations and nuclear materials or having unsupervised access to internal areas of nuclear installations, and ensure that only

10. Act of the Czech National Council No. 593/1992 Coll., on Reserves for Calculation of the Income Tax Base, in the wording of subsequent regulations.

11. Article 6 (2) of Act No. 329/1991 Coll., on Bankruptcy and Composition, in the wording of subsequent regulations.

9. *See footnote n°9.*

such persons perform, control and inspect the activities and have access to internal and protected areas of a nuclear installation;

- m) verify probity of personnel and persons handling category III nuclear materials or having unsupervised access to guarded and protected areas of a nuclear installation and ensure that only such persons perform the activities in question and have access to supervised areas of a nuclear installation;
- n) suspend the validity of an approval to handle nuclear materials or enter nuclear installations for an employee, in a case where and at the moment when a licensee learns that legal proceedings have commenced with such an employee for a criminal offence perpetrated through negligence, where the facts of the case are related to activity performed, or for a criminal offence committed with intent;
- o) provide a system of training, verification of competence and special professional competence of personnel in accordance with the importance of the work they perform.

(2) A special professional competence, within the meaning of this Act, means:

- a) skills and expertise of natural persons, as verified by a State examination commission and required for activities directly affecting nuclear safety of nuclear installations. The State examination commission shall be established and its Chairman and members appointed by the Chairman of the Office;
- b) skills and expertise of natural persons, as verified by an Expert Examination Commission of the Office and required to manage the working activities with ionising radiation sources and perform other activities especially important from the radiation protection viewpoint, set in an implementing regulation.

(3) Activities directly affecting nuclear safety may only be performed by natural persons who are physically and mentally competent, with professional competence and to whom the Office has granted an authorisation for the activities in question, subject to an application by the licensee. Physical and psychological competence shall be established in medical and psychological institutions specified by the Office, in accordance with the requirements and demands placed on the assessed persons by the activities they are to perform.

(4) Only natural persons with knowledge of the principles and procedures of radiation protection, as verified by the Expert Examination Commission of the Office, and holding an authorisation to perform the working activity in question granted by the Office may manage the working activities with ionising radiation sources and perform other activities especially important from the radiation protection viewpoint, laid down in an implementing regulation.

(5) Activities directly affecting nuclear safety and activities especially important from the radiation protection viewpoint, qualification and professional training requirements, the method to be used for their verification and the issue of authorisations for persons authorised to perform activities as in (3) and (4) (hereinafter referred to as “selected personnel”) shall be laid down in an implementing regulation.

Article 19

Obligations in the Event of a Radiation Accident

- (1) A licensee shall, to the extent and in the manner determined by the on-site emergency plan approved by the Office,
- a) notify without delay the relevant District Authority, the Office and other relevant bodies specified in the on-site emergency plan of the occurrence or suspected occurrence of a radiation emergency;
 - b) in the event of a radiation emergency, ensure that a warning is issued to the public within the emergency planning zone;
 - c) ensure the consequences of the radiation accident are dealt with in premises where his activities are performed and take steps to protect employees and other persons from the effects of ionising radiation;
 - d) ensure monitoring of exposures of employees and other persons and prevent any escape of radionuclides or ionising radiation into the environment;
 - e) inform relevant bodies, especially of monitoring results, factual and anticipated development of the situation, interventions taken to protect employees and the public, and interventions taken to deal with the radiation accident, and also of factual and anticipated exposure of people;
 - f) control and regulate exposure of employees and persons participating in the radiation accident mitigation within the premises where he performs his activities;
 - g) co-operate in dealing with the consequences of the radiation accident that occurred on his premises;
 - h) in the event of a radiation emergency, participate in the activities of the National Radiation Monitoring Network.
- (2) Licensee for transport as in Article 9(1) (m) shall also, to the extent and in the manner established in the emergency rules approved by the Office,
- a) immediately inform the appropriate District Authority, the Office and other relevant bodies specified in the emergency rules of the occurrence or suspected occurrence of a radiation emergency;
 - b) in the event of a radiation accident, take immediate steps to protect persons involved in transport from the effects of ionising radiation;
 - c) immediately inform relevant bodies of, in particular, his monitoring results, factual and anticipated development of the situation, interventions taken to protect persons involved in transport and interventions taken to deal with the radiation emergency, and also of factual and anticipated exposure of people;

- d) control and participate in regulation of exposure of people involved in transport and participating in the radiation accident clean-up process;
 - e) co-operate in dealing with the consequences of a radiation emergency that has occurred on his equipment.
- (3) A licensee shall also submit to the appropriate District Authority background documents to prepare the off-site emergency plan, co-operate with it to ensure emergency preparedness of the emergency planning zone, to the extent established in a government ordinance concerning the emergency planning zone, and participate financially, at his own cost¹², in enabling the activities of the National Radiation Monitoring Network, providing the public in the emergency planning zone of relevant installations or workplaces with antidotes, running a press and information campaign aimed at ensuring that the public is prepared for radiation emergencies, providing a system for notification of relevant bodies to the extent and in the manner established in the on-site emergency plan, and providing a warning system to inform the public living in the vicinity of the nuclear installation, and shall participate in radiation emergency clean-up operations within the emergency planning zone.

Article 20

Obligations in Transport and Shipment of Nuclear Items and Radionuclide Sources

- (1) A licensee under Article 9(1) (m), shall:
- a) make sure that a consignee is authorised to handle nuclear materials or ionising radiation sources in accordance with this Act;
 - b) ensure that the transport and shipment of nuclear materials and radionuclide sources defined in an implementing regulation is performed as specified in the implementing regulation and in accordance with the requirements established in specific regulations¹³;
 - c) supply nuclear materials and radionuclide sources defined in an implementing regulation solely in packaging assemblies which have been type-approved by the Office in accordance with this Act;
 - d) ensure that during transport and shipment neither radionuclide escape nor exposure of people exceeds limits and guidance levels laid down in an implementing regulation, and ensure physical protection of nuclear material shipments in accordance with the implementing regulation.
- (2) A licensee under Article 9(1) (i), (j), (k) or (m) shall ensure that a person making a shipment of nuclear items or radionuclide sources defined in an implementing regulation reports their entry to or exit from the territory of the Czech Republic to a border Customs Office and submits to this Customs

12. Article 24 (2) p) of Act No. 586/1992 Coll., on Income Taxes, in the wording of subsequent regulations.

13. E.g. Act No. 111/1994 Coll. on Road Transport, Decree No. 187/1994 Coll. of the Ministry of Transport, which implements the Road Transport Act, Act No. 266/1994 Coll., on Railways, Appendix 1 to Decree of the Minister of Foreign Affairs No. 8/1985 Coll., on the Convention on International Rail Transport (COTIF), Act No. 114/1995 Coll., on Inland Navigation, Decree of the Ministry of Transport No. 17/1966 Coll., on Air Transport Rules, in the wording of Decree No. 15/1971 Coll.

Office an authorised copy of a relevant licence and, in the case of a transit shipment, on entry an authorised copy of a valid licence of the country to which the nuclear items or radionuclide sources are being shipped from the Czech Republic. Unless this condition is fulfilled, the Customs Office shall not grant the goods passage. The Customs Office shall communicate the information contained in these documents to the Office. The provision of this paragraph does not cover transit shipments of items of dual use.

Article 21

Use of Insignificant and Minor Ionising Radiation Sources

(1) A licence for ionising radiation sources management under Article 9(1) (i), is not required for the use of insignificant or type-approved minor ionising radiation sources, if used in accordance with user manuals provided for the sources which have been approved by the Office as part of their type-approval.

(2) A minor source user (hereinafter referred to as a "registrant") is required to notify the Office not later than one day before commencement of this activity of the following:

- a) the identification of the registrant;
- b) the specification of the ionising radiation sources to be utilised and their quantity;
- c) the facility where the sources will be located;
- d) the proposed method of disposal of the ionising radiation sources;

(3) A licence for ionising radiation sources management under Article 9(1) (i) and notification under (2) are not required if they concern individual working operations and work with sources, within an approved or notified process of handling of ionising radiation sources.

Article 22

Obligations of the Registrant

A registrant shall:

- a) use ionising radiation sources only in accordance with user manuals approved by the Office as part of their type approval under Article 23;
- b) notify the Office of any change in information provided under Article 21;
- c) check on any breach of this Act or of implementing regulations and take remedial measures;
- d) ensure safe termination of activities;

- e) maintain and keep records of ionising radiation sources and communicate the recorded information to the Office, as laid down in an implementing regulation;
- f) provide the necessary co-operation for performance of inspection activities by the Office.

Article 23

Type-Approval

(1) Packaging assemblies for transport, storage or disposal of nuclear materials and radionuclide sources defined in an implementing regulation, ionising radiation sources specified in an implementing regulation, protective devices for work involving ionising radiation sources and other devices for direct use in working activities involving ionising radiation sources, and the design of which may affect radiation protection levels, may only be manufactured if they are type-approved by the Office. Type-approval is not necessary for the manufacture of devices for work with insignificant and minor ionising radiation sources and radiopharmaceuticals registered under specific regulations⁴ and subject to an affirmative statement from the Office.

(2) The Office shall open type-approval proceedings under (1) on application by a manufacturer or, in the case of imported equipment, on application by the importer, on the day the application is received. The Office shall make a decision in respect of a type-approval application for a packaging assembly for transport or storage of nuclear materials or radionuclide sources defined in an implementing regulation within 12 months of commencement of the proceedings, and within 90 days in other cases. Requisites for the application, documents to be attached to the application and the method of approval shall be laid down in an implementing regulation.

(3) In the case of products defined in an implementing regulation, documentation of tests performed at the applicant's cost at legal entities designated by the Office shall become part of the background documents required by the Office to issue a type-approval decision.

(4) A manufacturer of equipment under (1) that is manufactured for the purposes of introduction into circulation shall manufacture such equipment in conformity with the type-approved by the Office, verify the identity of characteristics and parameters of particular products with the approved-type and demonstrate this identity, to the extent and in the manner established by the Office in the equipment type-approval decision or in an implementing regulation.

(5) An equipment importer under (1) shall import types approved by the Office only. The importer or a person introducing this equipment into circulation shall ensure conformity assessment of characteristics and parameters of particular products with the approved type and demonstrate this conformity, to the extent and in the manner established by the Office in the equipment type-approval decision or in an implementing regulation.

4. *See footnote n°4.*

SECTION FOUR

RADIOACTIVE WASTE MANAGEMENT

Article 24

- (1) Any person who manages radioactive waste shall take into consideration all of its physical, chemical and biological properties that might have a bearing on its safe management.
- (2) An owner of radioactive waste or other natural person or legal person managing the assets of an owner in such a manner that radioactive waste is generated (hereinafter referred to as a “generator”), shall bear all costs associated with its management, from its time of origin to its disposal, including monitoring of radioactive waste repositories after their closure, and including the necessary research and development activities. A contractual transfer of rights to manage radioactive waste or of its ownership must be stipulated in writing.
- (3) Until a generator or the Office declares spent or irradiated fuel to be radioactive waste, its management, apart from the requirements arising out of other provisions of this Act, is subject to the same requirements as apply to radioactive waste. An owner of spent or irradiated fuel shall manage it in such a way as not to encumber the potential for subsequent conditioning.
- (4) Radioactive waste management shall not be not subject to the Act on Waste¹⁴. Details concerning radioactive waste management shall be laid down in an implementing regulation.

Article 25

Under the terms of this Act, the State guarantees safe disposal of all radioactive waste, including monitoring and supervision of repositories after their closure.

Article 26

- (1) To provide for activities associated with radioactive waste disposal, the Ministry of Industry and Trade shall set up a Radioactive Waste Repositories Authority (hereinafter referred to as “the Authority”) as a State organisation. The Authority shall carry out particular activities based on a licence under Article 9(1) of this Act. In the event of the Authority ceasing to exist, its rights and obligations shall be transferred to its establisher.
- (2) The activities of the Authority shall be financed from an interest-bearing account opened with the Czech National Bank (hereafter referred to as “the nuclear account”). The Ministry of Finance shall manage the nuclear account, which shall be included among the accounts of state financial assets and

14. Act No. 238/1991 Coll., on Waste, in the wording of Act No. 300/1995 Coll.

liabilities, the utilisation of which is decided by the Government¹⁵. Resources in the nuclear account may only be used for purposes within the provisions of this Act.

- (3) The Authority shall engage in the following activities:
- a) preparation, construction, commissioning, operation and closure of radioactive waste repositories and monitoring of their impact on the environment;
 - b) radioactive waste management;
 - c) conditioning of spent or irradiated nuclear fuel into a form suitable for its disposal or further utilisation;
 - d) keeping records of radioactive waste receipts and their generators;
 - e) administration of levies under Article 27;
 - f) drafting of proposals for determination of levies to the nuclear account;
 - g) provision for and co-ordination of research and development in the field of radioactive waste management;
 - h) monitoring of reserves of licensees for decommissioning of their installations;
 - i) provision of services in the field of radioactive waste management;
 - j) management of radioactive waste transported to the territory of the Czech Republic from abroad when it is not possible to return it;
 - k) provision of temporary administration¹⁶ in the case of radioactive waste that, under a specific Act¹⁷, has become State property; if these are items that were found, left or hidden¹⁸, the Authority is entitled also to accept them, instead of a State body determined by a specific Act¹⁹.
- (4) The Authority shall operate on the bases of a statute approved by the Government, a budget, and one-year, two-year and long-term plans for its activities. The Authority shall provide for the activities referred to in (3) a), b) and c), chiefly by selecting suppliers on the basis of an assessment of nuclear safety, radiation protection and economic benefit. The Authority shall perform activities under (3) (i) of this Act solely in connection with its other activities.

15. Act of the Czech National Council No. 576/1990 Coll., on Rules for Management of the Budgetary Resources of the Czech Republic and Local Authorities of the Czech Republic (Budgetary Rules of the Republic), in the wording of subsequent regulations.

16. Article 761 (1) of Act No. 513/1991 Coll., the Commercial Code, in the wording of subsequent regulations.

17. E.g. Article 135 of Act No. 40/1964 Coll., the Civil Code, in the wording of subsequent regulations.

18. Article 135 (1) and (3) of Act No. 40/1964 Coll., in the wording of subsequent regulations.

19. Article 13 of Act No. 102/1992 Coll., amending certain matters relating to the promulgation of Act No. 509/1991 Coll., which amends and supplements the Civil Code.

- (5) The Ministry of Finance shall transfer payments from the nuclear account to a special account of the Authority according to the plan of activities and budget for the Authority approved by the Government.
- (6) The Authority shall exercise the right to manage State property, maintaining an appropriate accounting system²⁰. The Authority shall not have its own property. The Authority shall not depreciate fixed assets, and shall not create provisions or correction items.
- (7) The Authority shall observe a specific Act²¹ in placing orders.
- (8) The resources of the Authority shall be subject to annual clearing with the nuclear account. The Authority shall transfer income from its own activities to the nuclear account and is authorised to mediate payments to this account.
- (9) Under Article 27, the Authority statute establishes the method of financial clearing to the nuclear account and other management details, and defines which property the Authority has the right to manage at the time of its establishment.
- (10) The Authority shall create a cultural and social needs fund under a specific regulation²².

Article 27

- (1) The income to the nuclear account shall specifically comprise:
- a) payments from radioactive waste generators;
 - b) interest from the nuclear account;
 - c) revenues from operations with nuclear account resources on the financial market;
 - d) income received and payments made by the Authority;
 - e) subsidies, gifts, grants and other income.
- (2) Generators shall allocate to their own debit¹² financial provisions to cover expenses for disposal of radioactive waste which have been arising or will arise and for associated activities of the Authority. These financial resources shall be accumulated in the nuclear account in the form of payments. Unless otherwise specified in this Act, the payments shall be suitably administered subject to a specific Act²³.

20. Act No. 563/1991 Coll., on Accountancy, in the wording of Act No. 117/1994 Coll.

21. Act No. 199/1994 Coll., on Public Procurement, in the wording of Act No. 148/1996 Coll.

22. Decree of the Ministry of Finance No. 310/1995 Coll., on the Cultural and Social Needs Fund.

12. *See footnote n°12.*

23. Act of the Czech National Council No. 337/1992 Coll., on Tax Administration and Collection, in the wording of subsequent regulations.

(3) The amount of payments shall be determined on the basis of the estimated costs of activities provided by the Authority and of the proportion of the total amount of waste attributable to the individual radioactive waste generators in respect of specific activities of the Authority three years in advance and related to the one-year plan, three-year plan and long-term plan of activity of the Authority.

(4) The balance of the nuclear account run as State financial assets may be invested on the financial market, but only in liquid government bonds, bonds of the Czech National Bank, state guaranteed bonds, or in securities of issuers whose rating level, granted by a rating agency selected by the Ministry of Finance, is at least as good as that of the Czech Republic. The Ministry of Finance may carry out financial investment through the intermediary of other persons. The manner of investment and its profitability shall be subject to supervision by the Ministry of Finance.

(5) The amount and manner of payments to the nuclear account, especially the payment basis, payment rate, payment period, payment due, submission of a payment return form and payment advances, together with the manner of their administration, including the way payer records are kept, and details of nuclear account management shall be established in a governmental ordinance. In this ordinance, the Government shall establish principles enabling generators of a small amount of radioactive waste to make payments by means of refunding the costs of its disposal credited to the nuclear account through the medium of the Authority.

(6) In the event that radioactive waste is safely disposed of so that the costs of the Authority for activities relating to waste from the generator in question do not reach the expected amount, and the Generator has terminated his activities associated with radioactive waste generation, the Government, as part of the Authority budget approval process, shall decide on reimbursement of unused resources to this generator.

Article 28

(1) The State shall, through the nuclear account, provide financial resources to the Authority for activities performed under Article 26(3) j) and k) and to manage radioactive waste disposed of subject to regulations effective prior to this Act coming into force.

(2) The State may provide a subsidy to eliminate old radiation burdens, namely for:

- a) disposal of radioactive waste which arose prior to privatisation²⁴ of its generators;
- b) elimination of radioactive environmental contamination that occurred before privatisation²⁴ of its generators;
- c) elimination of radioactive waste which arose from substances or items contaminated by radionuclides before the time of privatisation²⁴ of its generators to the extent of a proportional share of costs;

24. Act No. 92/1991 Coll., on Conditions of Transfer of State-Owned Property to Other Persons, in the wording of subsequent regulations.

24. See footnote n°24.

- d) decommissioning of installations commissioned before their privatisation²⁴, including the cost of necessary research and development work to the extent of a proportional share of costs;
- e) identification of risks arising from the presence of indoor radon and its daughter products, and taking intervention measures demonstrably justified under Article 6 (2).

A subsidy may be provided on the basis of an application reporting circumstances as specified in points (a) to (e).

Article 29

- (1) The bodies of the Authority shall be the Board and the Director. The Director shall be a statutory body of the Authority. The Director shall be a person of probity under Article 11 and fulfil requirements verified as established in a specific Act⁹, shall be competent to perform legal acts, university graduate and at least 6 years of expert experience.
- (2) The Board members and the Director shall be appointed and dismissed by the Minister of Industry and Trade (hereinafter referred to as “the Minister”).
- (3) The Board shall comprise 11 members. The Board shall comprise representatives of State administration bodies, generators of radioactive waste and the public. Four persons shall be representatives of radioactive waste generators and four persons shall represent the public. Membership of the Board membership shall be a public function²⁵.
- (4) A Board member may only be a person of probity under Article 11, and competent to perform legal acts. A Board member may not be in an employer-employee or similar relation to the Authority. The period for Board membership shall be 5 years.
- (5) The Board shall:
 - a) supervise the management and efficiency of use of resources spent on activities provided for and performed by the Authority, notify the Authority Director and the Minister of identified deficiencies and propose remedial measures;
 - b) recommend to the Minister the one-year, three-year and long-term plans of activity and the budget of the Authority for submission to the Government;
 - c) assess implementation of the one-year plan of activity and spending of the budget and arrange an audit of the annual financial statement of the Authority;
 - d) recommend to the Minister the dismissal or appointment of the Authority Director and, if need be, organisational changes to the Authority or changes to its statute;
 - e) recommend to the Minister proposals for determination of levies to the nuclear account.

9. See footnote n°9.

25. Article 124 (1) and (2) of Act No. 65/1965 Coll., the Labour Code, in the wording of subsequent regulations.

- (6) The Director shall be entitled to participate at Board meetings on a non-voting basis.

Article 30

- (1) On the basis of a proposal from the Authority, the Minister shall submit the following issues for approval to the Government,
- a) the one-year plan of activity of the Authority, including the annual budget;
 - b) the three-year plan of activity of the Authority, including expected income and expenditure, together with the long-term plan of activity of the Authority and with an estimate of forecast income and expenditure;
 - c) the annual report of the Authority, including the annual financial statement verified by the auditor and an analysis of the effectiveness of utilisation of resources;
 - d) the Authority statute;
 - e) a draft government ordinance concerning determination of levies to the nuclear account on the basis of a proposal under Article 26(3) (f).

- (2) In the event of a hazard arising from delay in approving the Authority's one-year plan of activity and its budget, the Minister shall be entitled to approve a provisional one-year plan and budget for the Authority on the basis of which, the Authority shall perform its activities until the plan and budget are approved by the Government.

Article 31

- (1) The Authority shall accept radioactive waste from a generator in the event that the waste meets acceptance criteria for waste disposal (hereinafter referred to as "acceptance criteria").
- (2) The conditions for take over of the waste for disposal and criteria for payments to the nuclear account, including penalties, shall be regulated by an agreement concluded between the generator and the Authority.
- (3) The acceptance criteria shall be established by the Office in the operating licence for particular repositories, subject to an assessment performed by the Authority of submitted safety analyses from the aspect of nuclear safety, radiation protection, physical protection and emergency preparedness.
- (4) The Authority shall accept radioactive waste or handle radioactive waste subject to a decision of the Office under Article 3(2) (q), even in cases where the waste does not meet the acceptance criteria. In such cases, the Authority shall make provision, at the expense of the generator, to have the waste conditioned into a form meeting the acceptance criteria for a repository or for safe storage of such waste until conditions are created for a final solution to the problem.

(5) Compensation claims for radioactive waste management costs shall lapse three years from the date of identification of the radioactive waste generator, but not later than twenty years from the date on which the Authority accepted the radioactive waste for disposal.

(6) On the date the Authority accepts radioactive waste from its generator, the waste shall pass into the ownership of the State. The Authority and the generator shall confirm acceptance of the radioactive waste in writing.

SECTION FIVE

CIVIL LIABILITY FOR NUCLEAR DAMAGE

Article 32

(1) The provisions of the international agreement²⁶, which is legally binding on the Czech Republic, shall be applied for the purposes of civil liability for nuclear damage.

(2) The provisions of general legal regulations^{27, 28} concerning liability for nuclear damage shall be applied only unless otherwise provided for by the international agreement²⁶ or this Act.

Article 33

(1) The licensee licensed for operation of nuclear installation²⁹ or performing any practice related to nuclear installation utilisation, or licensed for nuclear material transport³⁰ shall be the operator³¹ liable for nuclear damage³² under the international agreement²⁶ which is legally binding on the Czech Republic.

(2) In the event that a single person has been licensed for a number of nuclear installations located within an area, and for which a joint on-site emergency plan has been approved, these installations shall be considered, for the purposes of liability for nuclear damage, as a single nuclear installation. However, a number of nuclear installations for which different persons have been licensed cannot be considered as a single nuclear installation, from the aspect of liability for nuclear damage, even if such installations are directly linked.

26. The Vienna Convention on Civil Liability for Nuclear Damage and the Joint Protocol relating to the application of the Vienna and Paris Conventions, decreed under No. 133/1994 Coll.

27. Act No. 40/1964 Coll., in the wording of subsequent regulations.

28. Article 5 (2) of Act of the Czech National Council No. 425/1990 Coll., on Local Authorities and their Competence, and some other related measures, in the wording of Act No. 254/1994 Coll.

26. *See footnote n°26.*

29. Vienna Convention on Civil Liability for Nuclear damage, Article I (1) (j).

30. Vienna Convention on Civil Liability for Nuclear Damage, Article I, (1) (h).

31. Vienna Convention on Civil Liability for Nuclear Damage, Article I (1) (c).

32. Vienna Convention on Civil Liability for Nuclear damage, Article I (1) (k).

Article 34

- (1) In determining the extent and manner of compensation for nuclear damage, provisions of general legal regulations on liability for damage²⁷ shall be applied. To determine the amount of damage, legal regulations effective at the time of occurrence of the nuclear event³³ that caused the nuclear damage shall be applied.
- (2) Nuclear damage shall also be damage arising in the form of costs of interventions necessary to prevent or reduce exposure or restore the original or equivalent state of the environment, if these interventions were made necessary by a nuclear event and the nature of the damage thus permits.
- (3) An implementing regulation shall set limits for concentrations and quantities of nuclear materials to which, under the international agreement³⁴, the provisions on nuclear damage do not apply.

Article 35

The liability of a licensee for nuclear damage caused by each single nuclear event shall be limited in the case of:

- a) nuclear installations used for power generation purposes³⁵, storage facilities and repositories of spent nuclear fuel assigned to these installations, or nuclear materials generated by processing of this fuel, to the sum of CZK 6,000 million;
- b) other nuclear installations and shipments, to the sum of CZK 1,500 million.

Article 36

- (1) A licensee under Article 33 shall arrange insurance covering his liability for nuclear damage with an insurer suitably authorised by a specific Act³⁶, if no other financial security is stipulated to cover the nuclear damage liability.
- (2) The Ministry of Finance, by agreement with the Office and with the Ministry of Industry and Trade, shall determine, by way of a decision granting an exception from the provisions of (1), in the interest of efficient employment of State Funds, which licensee shall be required to have alternative type of financial cover of liability for nuclear damage instead of insurance covering his liability for nuclear damage.
- (3) The insured sum in cases under Article 35 a), shall not be less than CZK 1,500 million, and in cases under Article 35 b), shall not be less than CZK 200 million.

27. See footnote n°27.

33. Vienna Convention on Civil Liability for Nuclear Damage, Article I (1) (l).

34. Vienna Convention on Civil Liability for Nuclear Damage, Article I (2).

35. Act No. 222/1994 Coll.

36. Act of the Czech National Council No. 185/1991 Coll., on Insurance, in the wording of subsequent regulations.

(4) Insurance shall be arranged or other financial security established separately for each nuclear installation or nuclear material transport within the meaning of Article 33 (2).

(5) Detailed insurance policy conditions shall be established in the general insurance conditions of the insurer, as approved by the State insurance supervisory authority. Detailed conditions of other financial security shall be established by the Ministry of Finance.

Article 37

(1) The State undertakes to settle acknowledged claims for compensation of nuclear damage, if they are not reimbursed from the mandatory insurance or financial security otherwise established, up to a sum of

a) CZK 6,000 million over and above the sum paid by the insurer in the sum of CZK 1,500 million, in cases of installations under Article 35 a);

b) CZK 1,500 million over and above the sum paid by the insurer in the sum of CZK 200 million, in cases of installations under Article 35 b).

(2) The right of recourse of the State as guarantor for settlement of acknowledged claims for compensation of nuclear damage against the licensee is not affected.

Article 38

(1) The right to indemnification for nuclear damage shall expire if a claim for compensation is not made within three years of the date on which the person suffering nuclear damage had knowledge or should have had knowledge of the event that caused the nuclear damage and of who was liable, but not later than ten years after the occurrence of this event, or after expiry of the insurance, if the validity of the insurance was longer.

(2) In the case of a nuclear event occurring, a licensee shall issue written notification, in the region affected by the event as identified by the Office on the basis of National Radiation Monitoring Network activities under Article 3(2) (j), stating his liability for nuclear damage caused by this event. This written notification shall be accessible to the public at the premises of the licensee and at District and Community Councils within this region.

SECTION SIX

STATE SUPERVISION AND PENALTIES

Article 39

Control Activities

(1) The Office shall check compliance with this Act and subsequent regulations issued pursuant to it. The Office shall carry out inspections at the premises of persons granted a licence under Article 9 (1), or registered under Article 21 (2), at the premises of persons performing activities related to nuclear energy utilisation and practices resulting in exposure not requiring either a licence or a registration, at the premises of persons responsible for interventions reducing exposure to natural radioactive sources or exposure due to radiation accidents, and at the premises of persons where there is reason to believe that they utilise nuclear energy or perform practices resulting in exposure without authorisation.

(2) The Office's staff responsible for the inspection are inspectors of nuclear safety and inspectors of radiation protection (hereinafter referred to as "inspectors"). Inspectors must be persons competent to perform legal acts, university graduates in a relevant field and must have three years of professional experience. An inspector must have professional competence in matters under his supervision, must be a person of probity under Article 11 and meet requirements verified by a method established in a specific Act⁹. Inspectors shall be appointed by the Chairman of the Office.

(3) Inspectors shall check whether the persons referred to in (1) are observing provisions of this Act and implementing regulations, and whether they are keeping to the subject and scope of the issued licence, including specified conditions.

(4) Within the framework of their inspection activities, inspectors, and also the Chairman of the Office, are authorised, in addition to the rights arising from specific regulations³⁷, to:

- a) enter at any time facilities, installations, place of business, territories and other workplaces of inspected persons where activities related to nuclear energy utilisation or practices resulting in exposure are being carried out;
- b) check the compliance with requirements and conditions of nuclear safety, radiation protection, physical protection and emergency preparedness and inspect the nuclear installation conditions, adherence to limits and conditions and service regulations;
- c) demand evidence of fulfilment of all sets of obligations for the provision of nuclear safety, radiation protection, physical protection and emergency preparedness of nuclear installations;

9. *See footnote n°9.*

37. Act of the Czech National Council No. 552/1991 Coll., on State Inspection and Monitoring, in the wording of Act No. 166/1993 Coll.

- d) take measurements and collect samples at the premises of inspected persons such as are necessary for checking the compliance with this Act and other regulations issued on its basis;
 - e) perform a physical inspection of nuclear items or ionising radiation sources, including the checking of their records;
 - f) verify professional competence and special professional competence under this Act;
 - g) participate in investigations and clean-up of events with an impact on nuclear safety, radiation protection, physical protection and emergency preparedness, including unauthorised handling of nuclear items or ionising radiation sources.
- (5) According to the international treaty² which is legally binding on the Czech Republic, inspectors of the International Atomic Energy Agency are also authorised to perform a physical inspection of nuclear materials and an inspection of their accountancy for, provided they are accompanied by inspectors of the Office.
- (6) Unless otherwise stated in this Act, the procedure for inspection activities shall be governed by a specific Act³⁷.

Article 40

Remedial Measures

- (1) Should an inspector identifies deficiencies at the premises of an inspected person, he is authorised, depending on the nature of the identified discrepancy, to:
- a) require the inspected person to remedy the situation, within a set time period;
 - b) charge the inspected person to perform technical inspections, reviews or testing of function condition of the installation, its parts, system or its assemblies, if necessary for verification of nuclear safety;
 - c) withdraw the special professional competence authorisation issued to an employee of the inspected person, in the event of a serious violation of his obligations or his not fulfilling requirements of professional competence and physical and mental capability;
 - d) propose the imposition of a penalty.
- (2) The Office is authorised, in the event of a hazard arising from delay or an occurrence of undesirable situations with an impact on nuclear safety, radiation protection, physical protection and emergency preparedness, to issue a provisional measure³⁸ imposing on the inspected person the obligation to reduce the power output or suspend operation of the nuclear installation, suspend an

2. *See footnote n°2.*

37. *See footnote n°7.*

38. Article 43 of Act No. 71/1967 Coll., on Administrative Proceedings (the Administrative Code).

installation of components or systems of nuclear installations. Furthermore it is authorised to prohibit the handling of nuclear items, ionising radiation sources or radioactive waste, or to oblige on the inspected person to accept management by another person, at the expense of the inspected person.

Article 41

Penalties

For violation of a legal obligation established in this Act, the Office shall impose a penalty, up to the sum of:

- a) CZK 100 million on those who violate the prohibition on nuclear energy utilisation for other than peaceful purposes under Article 4, or the prohibition under Article 5 (1);
- b) CZK 50 million on a person performing activities under Article 9 (1), without a licence;
- c) CZK 10 million on a licensee violating an obligation under Articles 17 to 20;
- d) CZK 10 million on a person violating the prohibition on importation of radioactive waste for disposal under Article 5 (2) and not fulfilling the obligation of providing payments to the nuclear account under Article 27, or the obligation to entrust the disposal of radioactive waste to an authorised person only, under Article 26 and Article 48 (1);
- e) CZK 200,000 on natural persons of statutory bodies and CZK 100,000 on employees of an inspected person for distortion or concealment of facts important for performance of supervision activities or for non-co-operation during an inspection;
- f) CZK 100,000 for failure to fulfil other obligations imposed by this Act.

Article 42

(1) A penalty under Article 41 may be imposed within three years from the date on which the Office identified the violation of an obligation, but no later than 10 years after the occurrence of the violation.

(2) The amount of the penalty shall reflect the seriousness, significance and time period of the illegal activity and the extent of consequences that were caused, and timely and efficient co-operation in removing the deficiencies. In the event that the deficiencies are removed immediately following the identification of the breach of the obligations and the Office has been provided with efficient co-operation, and neither persons nor the environment have suffered any damage, the Office may decide to refrain from imposing a penalty.

(3) The Office shall collect penalties imposed under Article 41. Penalties shall constitute an income to the State budget.

PART II

AMENDMENTS AND ADDITIONS TO ACT NO. 425/1990 Coll. OF THE CZECH NATIONAL COUNCIL, ON DISTRICT AUTHORITIES, THEIR TERMS OF REFERENCE AND OTHER RELATED MEASURES, IN THE WORDING OF SUBSEQUENT LEGISLATION

Article 43

Act No. 425/1990 Coll., of the Czech National Council, on District Authorities, their terms of reference and other related measures, in the wording of Act No. 266/1991 Coll. of the Czech National Council; Act No. 542/1991 Coll., of the Czech National Council; Act No. 321/1992 Coll., of the Czech National Council; and Act No. 254/1994 Coll., is altered and amended as follows:

1. In Article 5 (2), after the first sentence, the following sentence is inserted, which, including the note 4d, is to read: “To deal with extraordinary events, shall draw up a district emergency plan, and possibly also an off-site emergency plan, as defined in a specific Act^{4d}, and shall verify emergency preparedness as defined in the emergency plan.

4d. Act No 18/1997 Coll. on Peaceful Utilisation of Nuclear Energy and Ionising Radiation (the Atomic Act), and on Alterations and Amendments to Related Legislation.”

2. In Article 5 (2), the second sentence shall read: “For the purpose of dealing with extraordinary events, shall provide a co-ordinated procedure for rescue, emergency, expert and other services, administrative offices, municipalities, natural persons and legal entities in eliminating the consequences of extraordinary events (hereinafter referred to as “the integrated rescue system”).”

3. In Article 5 (2), the following sentence is added at the end: “In the event of an emergency that could affect more than one district, the head of the District Authority on the territory of which the source of the hazard is located shall ensure co-ordination of preparation of an emergency plan for the emergency planning zone, according to a specific Act^{4d} and a joint approach to dealing with the emergency.”

4. In Article 15, after (e), a new letter (f) is inserted, in the following wording:

“f) by agreement with the State Office for Nuclear Safety, shall control and co-ordinate District Authorities in matters of emergency preparedness and elimination of the consequences of radiation emergencies.”

The letters (f) and (g) as they stand at present are altered to (g) and (h).

5. The current text of Article 15 is designated as paragraph 1 and a new paragraph 2 is inserted, in the following wording:

“(2) The Ministry of the Interior shall establish, in an implementing regulation, details for preparation of the district emergency plan and off-site emergency plan.”

PART III

AMENDMENTS TO ACT NO. 283/1991 Coll. OF THE CZECH NATIONAL COUNCIL, ON THE POLICE OF THE CZECH REPUBLIC, IN THE WORDING OF SUBSEQUENT REGULATIONS

Article 44

Act No. 283/1991 Coll. of the Czech National Council, on the Police of the Czech Republic, in the wording of Act No. 26/1993 Coll., Act No. 67/1993 Coll., Act No. 163/1993 Coll., Act No. 326/1993 Coll., Act No. 82/1995 Coll., and Act No. 152/1995 Coll., is amended as follows:

In Article 2 (1) o), the full stop is replaced by a semicolon, and a new letter, p), is inserted, in the following wording, including note 2a:

- "p) shall provide emergency protection of nuclear installations, as determined by the Government of the Czech Republic, and shall participate in physical protection of nuclear materials during their shipment, subject to a specific Act.2a.

2a. Act No. 18/1997 Coll. on Peaceful Utilisation of Nuclear Energy and Ionising Radiation (the Atomic Act), and on Alterations and Amendments to Related Legislation.”

PART IV

AMENDMENT TO ACT NO. 586/1992 Coll. OF THE CZECH NATIONAL COUNCIL, ON INCOME TAXES, IN THE WORDING OF SUBSEQUENT REGULATIONS

Article 45

Act No. 586/1992 Coll. of the Czech National Council, on income taxes, in the wording of Act No. 35/1993 Coll. of the Czech National Council, Act No. 96/1993 Coll., Act No. 157/1993 Coll., Act No. 196/1993 Coll., Act No. 323/1993 Coll., Act No. 42/1994 Coll., Act No. 85/1994 Coll., Act No. 114/1994 Coll., Act No. 259/1994 Coll., Act No. 32/1995 Coll., Act No. 87/1995 Coll., Act No. 118/1995 Coll., Act No. 149/1995 Coll., Act No. 248/1995 Coll. and Act No. 316/1996 Coll., is amended as follows:

In Article 18 (2), the full stop in letter b) is replaced by a colon, and a new letter, c), is inserted, with the following wording, including note 19e:

- “c) income from own activities of the Radioactive Waste Repository Authority^{19e}), excluding income subject to a special tax rate under Article 36 of this Act.

19e. Act No. 18/1997 Coll. on peaceful utilisation of nuclear energy and ionising radiation (the Atomic Act), and on alterations and amendments to related legislation.”

PART V

GENERAL, TEMPORARY AND FINAL PROVISIONS

Article 46

Tasks and Obligations of Central State Administrative Bodies in Emergency Preparedness

- (1) The Ministry of Defence, within the framework of civil defence, shall establish, in order to arrange and verify emergency preparedness, a monitoring system, a notification and warning system, means of collective and individual protection of the public, and also forces and means for dealing with the consequences of a radiation emergency.
- (2) The Ministry of Health shall create a system of special medical care provided by selected clinics to persons irradiated in the course of radiation accidents.

Article 47

General and Temporary Provisions

- (1) Proceedings under this Act shall be governed by general legal regulations³⁹, unless otherwise specified by this Act.
- (2) Persons disposing of radioactive waste on the basis of licences granted under Act No. 28/1984 Coll., on State Nuclear Safety Supervision for Nuclear Installations, or under Decree No. 59/1972 Coll. of the Health Ministry of the Czech Socialist Republic, on Health Protection from Ionising Radiation, shall be authorised to perform this activity until such time as the radioactive waste repositories are transferred to the Authority under Article 48 (1).
- (3) Persons performing activities regulated by this Act on the basis of a licence or approval granted under Act No. 28/1984 Coll., on State Nuclear Safety Supervision of Nuclear Installations, shall, within 1 year of this Act entering into force, accommodate their legal relations to the requirements stated under Article 18 (1) (e) and Article 36, and within 2 years of this Act entering into force, to the requirements stated under Article 17 (1) (i) and under Article 18 (1) (m) and (n), and to other requirements of this Act within 5 years of this Act entering into force, with the exception of Article 48, where the obligation enters into effect on the date of opening of the nuclear account. On expiry of the time periods mentioned above, the original licence or approval ceases to be valid.
- (4) The validity of an authorisation to handle ionising radiation sources granted under Decree No. 59/1972 Coll. of the Health Ministry of the Czech Socialist Republic, on Health Protection from Ionising Radiation, shall terminate on expiry of the period for which it was issued, but no later than five years from the date that this Act enters into force.
- (5) Proceedings not completed prior to this Act entering into force shall be completed under the legal regulations effective at the time of their commencement.

39. Act No. 71/1967 Coll.

(6) Emergency planning zones established before this Act entered into force shall be considered as emergency planning zones established in this Act.

(7) The Office shall issue regulations to implement Articles 2, 3, 4, 6, 7, 8, 9, 13, 14, 17, 18, 20, 22, 23, 24 and 34 and points A.I.1, A.I.2 and B.I.1 of the Appendix.

(8) The Ministry of Industry and Trade, by agreement with the Office, shall establish by legal regulation specific requirements to ensure uniformity and correctness of measuring devices and measurements performed as part of activities related to nuclear energy utilisation, and practices resulting in irradiation.

Article 48

(1) Radioactive waste repositories operated until the present time by other persons than the Authority shall be transferred within 3 years of this Act entering into force into the ownership of the state and entrusted to the Authority, with the exception of repositories in the form of dumps, tailings dams or spoil heaps originating from mining, containing radioactive waste or created by mining operations with radioactive waste used as part of their filling,

- a) if operated by a state enterprise⁴⁰, and within three years of the date that this Act enters into force a licence is granted to this enterprise by the Office under Article 9 (j);
- b) if their owner, within three years of the date that this Act enters into force, concludes a contract with the Authority to ensure radiation protection; or
- c) where measures to reduce radioactive contamination are not justified by benefits as in Article 6 (2).

(2) A state enterprise⁴⁰, the founder of which has declared a programme of reduction of activities, is not obliged to establish a decommissioning provision under Article 18 (1) (h).

Article 49

Final Provisions

The following are declared invalid:

1. Act No. 287/1993 Coll. on Competence of the State Office for Nuclear Safety, in the wording of Act No. 85/1995 Coll.
2. Act No. 28/1984 Coll. on State Supervision of Nuclear Safety at Nuclear Installations.
3. Decree No. 59/1972 Coll. of the Health Ministry of the Czech Socialist Republic, on Protection of Health from Ionising Radiation.

40. Act No. 111/1990 Coll., on State Enterprises, in the wording of subsequent regulations.

40. See footnote n°40.

4. Decree No. 28/1977 Coll. of the Czechoslovak Atomic Energy Commission, on Accountancy for and Control of Nuclear Materials, in the wording of Decree No. 100/1989 Coll.
5. Decree No. 67/1987 Coll. of the Czechoslovak Atomic Energy Commission, on Nuclear Safety Assurance in Radioactive Waste Management.
6. Decree No. 100/1989 Coll. of the Czechoslovak Atomic Energy Commission, on Physical Protection of Nuclear Installations and of Nuclear Materials.
7. Decree No. 191/1989 Coll. of the Czechoslovak Atomic Energy Commission, which establishes methods, terms and conditions for verification of special professional competence of selected personnel at nuclear installations.
8. Decree No. 436/1990 Coll. of the Czechoslovak Atomic Energy Commission, on Quality Assurance at Selected Installations with Regard to Nuclear Safety of Nuclear Installations.
9. Decree No. 76/1991 Coll. of the Health Ministry of the Czech Republic, on Reduction of Exposure from Radon and Other Natural Radionuclides.
10. Directive No. 2/1978 of the Czechoslovak Atomic Energy Commission, on Nuclear Safety Assurance in the Process of Nuclear Power Installations Designing, Licensing and Construction (registered in section 28/1987 Coll.).
11. Directive No. 4/1979 of the Czechoslovak Atomic Energy Commission, on General Criteria for Nuclear Safety Assurance in the Process of Nuclear Power Installations Siting (registered in section 9/1979 Coll.).
12. Directive No. 6/1980 of the Czechoslovak Atomic Energy Commission, on Nuclear Safety Assurance in the Process of Nuclear Power Installation Commissioning and Operation (registered in section 13/1980 Coll.).
13. Directive No. 8/1981 of the Czechoslovak Atomic Energy Commission, on Testing of Equipment for Shipment and Storage of Radioactive Materials (registered in section 20/1981 Coll.).
14. Directive No. 9/1985 of the Czechoslovak Atomic Energy Commission, on Nuclear Safety Assurance for Nuclear Research Installations (registered in section 11/1985 Coll.).

Article 50

This Act shall enter into force on 1 July 1997, except for Sections Four and Five and Article 48, which come into force on the day of its promulgation.

**CONTENT OF DOCUMENTATION REQUIRED FOR ISSUE OF A LICENCE FOR
INDIVIDUAL ACTIVITIES UNDER ARTICLE 13 (3) (D) OF THIS ACT**

A. Documentation for the issue of a licence for siting of a nuclear installation or workplace with very significant ionising radiation source

I. Initial safety report, the content of which shall include:

1. description and evidence of suitability of the selected site from the aspect of siting criteria for nuclear installations and very significant ionising radiation sources as established in a legal implementing regulation;
2. description and preliminary assessment of design conception from the aspect of requirements laid down in implementing regulation for nuclear safety, radiation protection and emergency preparedness;
3. preliminary assessment of impact of operation of proposed installation on personnel, the public and the environment;
4. proposal of conception for safe termination of operation;
5. assessment of quality assurance in process of selection of site, method of quality assurance for preparatory stage of construction and quality assurance principles for linking stages.

II. Analysis of needs and possibilities of physical protection assurance.

B. Documentation for the issue of a licence for construction of a nuclear installation or workplace with very significant or significant ionising radiation source

I. Preliminary safety report, which shall include:

1. evidence that the proposed design meets all requirements for nuclear safety, radiation protection and emergency preparedness as laid down in implementing regulations;
2. safety analyses and analyses of the potential unauthorised handling of nuclear materials and ionising radiation sources, and an assessment of their consequences for personnel, public and environment;
3. information on predicted lifetime of nuclear installation or very significant ionising radiation source;

4. assessment of nuclear waste generation and management of it during commissioning and operation of the installation or workplace being licensed;
5. conception of safe termination of operation and decommissioning of the installation or workplace being licensed, including disposal of nuclear waste;
6. conception for spent nuclear fuel management;
7. assessment of quality assurance during preparation for construction, method of quality assurance for the carrying out of construction work and principles of quality assurance for linking stages;
8. list of classified equipment.

II. Proposed method of providing physical protection.

The documentation specified under I.8 and II shall be subject to approval by the Office.

C. Documentation for the issue of a licence for individual stages of nuclear installation commissioning

a) For stages prior to loading nuclear fuel into a reactor:

1. time schedule for work in a given stage;
2. programme for the stage in question;
3. evidence that installation and personnel are prepared for the stage in question;
4. evaluation of results of the preceding stage;
5. method by which physical protection is to be provided.

b) For the first loading of nuclear fuel into a reactor:

I. pre-operational safety report which shall include:

1. description of changes to original design assessed in the preliminary safety report and evidence that there has been no decrease in the level of nuclear safety of the nuclear installation;
2. supplementary and more precise evidence of nuclear safety and radiation protection provisions;
3. limits and conditions for safe operation of the nuclear installation;
4. neutron-physics characteristics of the nuclear reactor;
5. method of radioactive waste management;

- 6. quality evaluation of classified equipment;
- II. further documentation which shall include
 - 1. evidence that all prior decisions and conditions of the Office were fulfilled;
 - 2. time schedule for nuclear fuel loading;
 - 3. programme for nuclear fuel loading;
 - 4. evidence that installation and personnel are prepared for nuclear fuel loading;
 - 5. evaluation of the result of previous stages;
 - 6. on-site emergency plan;
 - 7. changes in the provision of physical protection;
 - 8. programme of operational inspections;
 - 9. proposed decommissioning method;
 - 10. cost estimate for decommissioning as in II.9, verified by the Authority.

c) For stages following the first nuclear fuel loading into the reactor:

- 1. time schedule for work in this stage;
- 2. programme of this stage;
- 3. evidence that installation and personnel are prepared for the stage in question;
- 4. evaluation of results of the previous stage.

Documentation as specified under a), items 2 and 5, under b), items I.3, II.6 to II.9 and under c), items 2 shall be subject to approval by the Office. The Office may open proceedings even if documentation as in II.4 is not submitted.

D. Documentation for the issue of a licence for nuclear installation or workplace with significant or very significant ionising radiation source operation

a) For the issue of a licence for nuclear installation operation:

- 1. supplements to the pre-operational safety report and further supplements to documentation required for the issue of a licence for the first nuclear fuel loading into the reactor, relating to changes carried out after the first nuclear fuel loading;
- 2. evaluation of results of previous commissioning stages;
- 3. evidence of implementation of previous decisions and conditions of the Office;

4. evidence that installation and personnel are prepared for operation;
5. operation time schedule;
6. up-dated limits and conditions for safe operation.

b) For the issue of a licence for workplace with significant or very significant ionising radiation sources operation:

1. evidence that construction was carried out in accordance with the construction licence as regards radiation protection;
2. certificate on completion of construction and installation activities;
3. evidence of the effectiveness of shielding, insulation and protective equipment;
4. conception for safe disposal of possible radioactive waste generated during operation of workplace with ionising radiation sources;
5. proposed method of decommissioning;
6. on-site emergency plan;
7. cost estimate for decommissioning, subject to item b) 5, verified by the Authority.

Documentation as specified under a), item 6 and under b), items 5 and 6 shall be subject to approval by the Office. The Office may open proceedings even if documentation as in a), item 4 is not submitted.

E. Documentation for the issue of a licence for restart of a nuclear reactor to criticality following a nuclear fuel reload

1. neutron-physics characteristics of the reactor;
2. evidence that installation and personnel are prepared for restart of the nuclear reactor to criticality, including preliminary evaluation of in-service inspections;
3. time schedule for subsequent operation.

The Office may open proceedings even if documentation under item 2 is not submitted.

F. Documentation for the issue of a licence for reconstruction or other changes impacting on nuclear safety, radiation protection, physical protection or emergency preparedness of nuclear installation or workplace with significant or very significant ionising radiation source

1. Description and justification of prepared reconstruction or other changes;

2. up-dating of documentation approved for commissioning and operation of nuclear installation;
3. anticipated time schedule for reconstruction or changes;
4. evidence that the consequences of reconstruction or other changes will not adversely influence nuclear safety, radiation protection, physical protection or emergency preparedness.

Documentation specified under point 2 shall be subject to approval by the Office.

G. Documentation for the issue of a licence for individual stages of decommissioning of a nuclear installation or workplace with significant or very significant ionising radiation source

1. Evidence of availability of finance for decommissioning activities;
2. description of changes to local area due to nuclear installation operation;
3. description of technical procedures proposed for decommissioning;
4. decommissioning time schedule;
5. method of dismantling, decontamination, conditioning, transport, storage and elimination of parts of installation contaminated by radionuclides;
6. assumed types and activities of radionuclides discharged into the environment and radioactive waste generated;
7. method of radioactive waste management, including its disposal;
8. limits and conditions for safe management of radioactive waste during decommissioning process;
9. safety analyses;
10. scope and method of measurement and evaluation of exposure of exposed workers and other persons and contamination of the workplace and its vicinity by radionuclides and ionising radiation;
11. on-site emergency plan;
12. evidence of provision of physical protection of decommissioned nuclear installation.

Documentation specified under items 8, 10 and 11 shall be subject to approval by the Office.

H. Documentation for the issue of a licence to discharge radionuclides into the environment

1. Justification of discharge of radionuclides into the environment;
2. types and activities of radionuclides discharged into the environment;
3. evaluation of exposure of critical group of the population from discharged radionuclides;
4. analysis of a possible accumulation of radionuclides in the environment in the case of long-term discharging.

I. Documentation for the issue of a licence for ionising radiation source management

1. Justification of the radiation practices;
2. specification of used radiation sources, their types and accessories;
3. description of workplace and its surroundings (schematic plan of the workplace) supplemented by information on shielding and protective facilities and equipment of workplaces;
4. evidence of optimisation of radiation protection at workplace under Article 4, par. 4 of this Act;
5. delineation of controlled area, anticipated number of personnel working in this area and method of preventing entry of unauthorised persons into this area;
6. operating instructions for safe handling of ionising radiation source;
7. on-site emergency plan;
8. scope and method of measurement (monitoring programme) and evaluation of exposure of exposed workers and other persons and contamination of workplace and its vicinity by radionuclides and ionising radiation;
9. assumed types and amount of radionuclides released into the environment and assumed type and amount of radioactive waste generated, and method of disposal of this waste;
10. document on the special professional competence of personnel directly manage the working activities with ionising radiation sources and perform other activities especially important from the radiation protection viewpoint, as laid down in implementing regulation;
11. type specification of ionising radiation sources that are to be manufactured;
12. evidence of capability to measure and verify properties of ionising radiation sources which are to be manufactured, and their conformity with a given type;
13. type specification of ionising radiation sources that are to be imported;

14. document demonstrating provision for measurement and verification of properties of ionising radiation sources that are to be imported and their conformity with a given type;
15. type specification of ionising radiation sources that are to be exported;
16. for exportation of ionising radiation sources defined in implementing regulation, additionally a document acknowledged by a competent body in the country of the consignee proving that the consignee fulfils all conditions for ionising radiation sources management.

Documentation specified under items 5, 7 and 8 shall be subject to approval by the Office.

J. Documentation for the issue of a licence for radioactive waste management

1. Description of equipment and technology used;
2. information on origin, type, amount, radionuclide structure and activity of radioactive waste;
3. method of collection, sorting, storage, processing, conditioning and disposal of radioactive waste;
4. assumed amount of radionuclides released into the environment;
5. scope and method of measurement (monitoring programme) and evaluation of exposure of exposed workers and other persons and contamination of workplace and its vicinity by radionuclides and ionising radiation;
6. safety analyses;
7. on-site emergency plan;
8. document on the special professional competence of personnel directly manage the working activities with ionising radiation sources and perform other activities especially important from the radiation protection viewpoint;
9. limits and conditions for safe management of radioactive waste.

Documentation specified under items 5, 7 and 9 shall be subject to approval by the Office.

K. Documentation for the issue of a licence for import or export of nuclear items or for transit of nuclear materials and selected items

- a) Documentation required for nuclear materials and selected items
 1. if imported, statement of the user on the purpose of use thereof, including his commitment to enforce application of safeguards, provide physical protection, not to transfer and not to export these items without written agreement by the Office, under

the terms arising out of international treaties, agreements and conventions by which the Czech Republic is bound;

2. if exported or during transit thereof, a guarantee from the State into which the nuclear materials or selected items are imported, under the terms arising out of international treaties, agreements and conventions by which the Czech Republic is bound.

b) Documentation required for items of dual use

1. if imported, statement of the user on the purpose of use thereof and a his commitment not to export these items without written agreement by the Office, under the terms arising out of international treaties, agreements and conventions by which the Czech Republic is bound;
2. if exported, a guarantee by the end user or by the State to which items of dual use are imported, under the terms arising out of international treaties, agreements and conventions by which the Czech Republic is bound.

L. Documentation for the issue of a licence for nuclear materials management

1. Purpose, justification and time interval for nuclear materials management;
2. specification of type and amount of nuclear materials, including their chemical and physical form and enrichment;
3. description of handling operations involving nuclear materials with respect to the possibility of their operational losses and/or their consumption;
4. directives for accountancy for and control of nuclear materials;
5. information necessary for fulfilment of conditions arising out of international treaties, agreements and conventions by which the Czech Republic is bound in the field of accountancy for and control of nuclear materials.

M. Documentation for the issue of a licence for transport of nuclear materials and radionuclide sources

1. Transport instructions containing specification of type of transport and proposed route, including an alternative route;
2. assessment of risks arising out of the nature of radioactive content, type of transport and selected route;
3. emergency rules;
4. method of radiation protection during transport;

5. document proving the competence of crew of vehicles transporting hazardous goods, or evidence of this competence under a specific regulation¹⁴;
6. document on capability of the means of transport, or evidence of this capability under a specific regulation¹⁴;
7. proposal for classification of transported nuclear materials into relevant categories from the physical protection aspect;
8. proposed physical protection arrangements during transport;
9. evidence of conformity of packaging assemblies with type-approval.

Documentation specified under items 3, 7 and 8 shall be subject to approval by the Office.

N. Documentation for the issue of a licence for expert training of selected personnel of nuclear installations and selected personnel of workplaces with ionising radiation source

1. Documents establishing organisational and technical capability of an applicant for expert training of selected personnel;
2. documents establishing the professional competence of the applicant personnel for expert training of selected personnel;
3. documents establishing the method of expert training of selected personnel.

Documentation specified under item 3 shall be subject to approval by the Office.

O. Documentation for the issue of a licence for re-importation of radioactive waste originating from material exported from the Czech Republic, for the purpose of its processing (reprocessing)

1. Document establishing origin, type, physical properties and chemical composition of material which was exported and processed outside the territory of the Czech Republic, together with a document stating the total mass of this material;
2. document on the physical properties of imported radioactive waste and its chemical composition together with a document stating its total mass;
3. document on the technical process by which the exported material was processed (reprocessed) together with the material balance, which will demonstrate the probable amount of radioactive waste that may arise from the given amount of material through the technological process specified.

14. See footnote n°14.

ESTONIA

RADIATION ACT^{*}

Adopted on 23 April 1997

CHAPTER 1

General Provisions

Section 1

Purpose of the Act

The purpose of the Act is the protection of humans and the environment against harmful effects of radiation.

Section 2

Scope of the Act

- (1) This Act applies to:
1. gamma radiation, X-rays, corpuscular radiation or any radiation generating ions in tissues (ionising radiation);
 2. ultraviolet radiation, visible light, infra-red radiation, radio-frequency radiation and static electric and magnetic field (non-ionising radiation);
 3. substances with spontaneously fissionable atomic nuclei generating at fission ionising radiation, including substances containing nuclear materials ^{233}U , ^{235}U and ^{239}Pu (radioactive material).

* This is an unofficial translation established by the OECD. Only the Estonian text has the force of law.

- (2) This Act regulates:
1. any activity involving a radiation source dangerous to humans due to ionising radiation (activity involving radiation);
 2. circumstances which cause or could cause dangerous irradiation of humans by natural radiation;
 3. the implementation of special radiation safety measures in environments seriously contaminated with radioactive substances (intervention activity).
- (3) The radiation safety requirements concerning use of non-ionising radiation and radiation sources are established by the Government of the Republic.

Section 3

Principles governing activity involving radiation

- (1) For the purpose of this Act a radiation source is:
1. radioactive material;
 2. a device containing radioactive material;
 3. an electric irradiator generating ionising radiation of energy exceeding 5 kilo electronvolt.
- (2) Activity involving radiation is acceptable if:
1. the expected result of activity justifies possible harm;
 2. harm will be kept as low as reasonably achievable with regard to the level of science and technology and socio-economic possibilities;
 3. irradiation of members of the public and radiation workers does not exceed the limits established by this Act or its implementing legislation.
- (3) The principles set out in points 1 and 2 of paragraph 2 of this Section shall be applied to all kinds of radiation. The principles set out in point 3 of paragraph 2 of this Article shall not be applied to:
1. medical radiation exposure;
 2. emergency radiation exposure;
 3. those cases of natural radiation exposure where naturally radioactive substances are not purposely used as radiation sources .

Section 4

Competent Government body

- (1) State functions regarding activity involving radiation and radiation protection shall be conducted by the Radiation Protection Centre. The Radiation Protection Centre reports to the Ministry of the Environment.
- (2) In relation to radiation protection the State is responsible for:
 1. issuance of licenses for an activity involving radiation and type approvals;
 2. keeping of the Dose Register and the Source Register;
 3. assessment of radiation level and radiation monitoring;
 4. notification of radiation accidents;
 5. implementation of international conventions and agreements;
 6. supervision of activity involving radiation.

CHAPTER 2

Requirements concerning activities involving radiation

Section 5

Licence for activity involving radiation

- (1) Activity involving radiation is allowed under a special license except in cases specified in Section 6 of this Act.
- (2) A license for activity involving radiation is required for:
 1. construction, operation and decommissioning of nuclear facilities;
 2. handling of nuclear substances or materials containing nuclear substances;
 3. addition of radioactive substance during production and manufacturing of pharmaceuticals and consumer goods;
 4. administering of radioactive material to humans and animals for diagnostic, therapeutic and scientific purposes;

5. use of an X-ray apparatus, an accelerator or an irradiator containing radioactive substance in industry, medicine and scientific research.
- (3) A license for activity involving radiation can be applied for by a legal person or a natural person (as an entrepreneur). State and municipal agencies are entitled to obtain a license for an activity involving radiation if this activity is declared in their statutes.
- (4) A license for activity involving radiation may be issued if:
 1. the licensee for the activity involving radiation has personnel with the required professional qualifications;
 2. the site for the activity, and other technical requirements, guarantee observance of safety requirements.
- (5) The license for activity involving radiation in the case of construction of nuclear facilities can only be issued after approval of the Estonian Parliament (*Riigikogu*).

Section 6

Exemption from the license requirement for activity involving radiation

- (1) The Government of the Republic shall establish by ordinance the levels of radioactive material and the maximum limits of specific activity thereof, which are exempted from the requirement of licensing for activity involving radiation.
- (2) A license for activity involving radiation is not required for use of a radiation source containing radioactive material which exceeds the limits set out in paragraph 1 of this Section if the source meets all of the following requirements:
 1. it is manufactured as a sealed radiation source excluding any direct contact with, and leakage of, radioactive material;
 2. in normal operating conditions the resulting dose rate at the distance of 0.1 metre from the surface of the radiation source does not exceed 1 microSievert per hour;
 3. has a valid type approval.
- (3) A license for activity involving radiation is not required for the operation of electric irradiators if in normal operating conditions the resulting dose rate does not exceed 1 microSievert per hour at the distance of 0.1 metre from the surface of the irradiator.
- (4) The operating conditions of the radiation source are considered normal if they meet the requirements established under Section 23 of this Act.

Section 7

Issuance of a license for activity involving radiation

- (1) The procedure for issuing a license for activity involving radiation shall be established by ordinance of the Minister of Environment.
- (2) The license for activity involving radiation shall be issued by the Radiation Protection Centre.
- (3) The license for activity involving radiation shall specify:
 1. the measures guaranteeing radiation safety at the site and in the vicinity of the activity;
 2. the required marking, posting and labelling of radiation sources and the premises housing them;
 3. the containment conditions of radiation sources excluding access of unauthorised persons;
 4. workplace radiation level monitoring and special danger notification;
 5. securing of areas of radiation danger with radiation protection devices and meters;
 6. organisation of surveillance at the workplace;
 7. necessity of intervention action plans for emergency situations.

Section 8

Obligations of the licensee of activity involving radiation

- (1) The licensee of activity involving radiation has the obligation to:
 1. register the radiation sources and radioactive wastes according to rules established by Ordinance of the Minister of the Environment;
 2. provide radiation workers with training and radiation safety instruction in accordance with the nature of the work and conditions of the workplace;
 3. organise health surveillance of workers exposed to radiation;
 4. provide at transfers of radiation sources, from owner to owner or from assignor to assignee, with exhaustive information relevant for guaranteeing radiation safety;
 5. inform immediately the bodies appointed by the system of notification of radiation emergencies about accidents and emergencies which occur during activity involving radiation and about incidents when radiation exceeds the permissible limits;

6. check observance of the requirements of this Act and the requirements of the license for activity involving radiation at the workplace and in the zone affected by the radiation source.
- (2) Appointment of a radiation safety manager does not exempt the licensee for activity involving radiation from liability.

Section 9

Suspension of activity involving radiation and cancellation of the license for activity involving radiation

- (1) If the licensee for activity involving radiation fails to meet the requirements of radiation safety established by this Act or the requirements established by the license for activity involving radiation, the inspector shall suspend the activity involving radiation for up to six months and provide for termination of the breaches, and in the event of appearance of circumstances which would hinder the observance of the requirements and terms of the license, shall provide for their elimination.
- (2) If the licensee for activity involving radiation has not implemented the required provisions before the established deadline, the Radiation Protection Centre shall cancel the license at the request of the inspector within three days from the receipt of this request.
- (3) Suspension of activity involving radiation or cancellation of the license for activity involving radiation can be appealed in an Administrative Court.

CHAPTER 3

Radiation exposure

Section 10

Radiation exposure categories

- (1) Radiation exposure is the exposure of humans to ionising radiation. The radiation exposure is measured according to dose limits.
- (2) This Act differentiates between:
1. occupational exposure;
 2. exposure to natural radiation;
 3. public exposure;

4. medical exposure; and
5. emergency exposure.

Section 11

Dose limits

- (1) Dose limits are established for:
 1. ionising radiation absorbed in unit of mass of a human organ or tissue multiplied by the weighting factor specified for the radiation (equivalent dose of the organ);
 2. effective dose: the sum of the equivalent doses weighted by radiation factors and tissue factors.
- (2) The radiation factor and tissue factor values specified by the European Council 13 May 1996 Directive 96/29/Euratom shall be instituted by ordinance of the Minister of Environment.

Section 12

Occupational exposure

- (1) Occupational exposure is the exposure which a worker exposed to radiation receives at work from radiation sources registered pursuant to the requirements of this Act.
- (2) A worker exposed to radiation is a person who performs his assigned task in the area affected by the radiation source. During activity involving radiation a worker exposed to radiation may receive radiation doses exceeding the limits for public exposure.

Section 13

Occupational exposure limits

- (1) The annual effective dose should not exceed:
 1. 20 milliSievert per year averaged over five consecutive years;
 2. 50 milliSievert in any year referred to in point 1 of this paragraph;
 3. 6 milliSievert for persons aged from 16 to 18 years participating in professional training programmes.
- (2) The annual equivalent dose of a human organ should not exceed:

1. 150 milliSievert for the crystalline eye lens of the worker exposed to radiation,
 2. 500 milliSievert for the skin and extremities of the worker exposed to radiation;
 3. 1 milliSievert for abdominal region of pregnant women on the condition that the radiation work of pregnant women shall be organised in a manner which excludes radiation-caused damage to the embryo;
 4. 50 milliSievert for crystalline eye lens of persons aged from 16 to 18 years participating in professional training programmes;
 5. 150 milliSievert for skin and extremities of persons aged from 16 to 18 years participating in professional training programmes.
- (3) The Government of the Republic has the right to establish additional rules to guarantee observance of occupational exposure limits referred to in this Section.

Section 14

Exposure to natural radiation

- (1) Exposure to natural radiation is the exposure caused by cosmic radiation or radiation from natural radioactive substances not used as radiation sources.
- (2) Exposure to natural radiation can be regarded as occupational exposure:
 1. when the workplace is in mineral springs, in caves, mines and underground facilities;
 2. when work involves non-radioactive substances to which natural radioactive substances have been added;
 3. for high flight aircraft crews.
- (3) If there are reasons to suspect that exposure to natural radiation impairs or could impair the health of persons engaged in work referred to in paragraph 2 of this Section, the Minister of the Environment shall order an expert survey to be conducted following a proposal of the Radiation Protection Centre to this effect.
- (4) The Minister of the Environment shall decide, according to the results of the expert survey ordered pursuant to paragraph 3 of this Section, whether this exposure constitutes occupational exposure or not.
- (5) The expenses of the expert survey referred to in paragraph 3 of this Section shall be covered by the employer.

Section 15

The dose register

The Radiation Protection Centre shall keep the dose register of occupational exposure of workers exposed to radiation. The statutes of the dose register shall be approved by the Government of the Republic.

Section 16

Age limits for work involving exposure to radiation

- (1) Persons aged 18 years and over can be admitted to full-time employment involving exposure to radiation.
- (2) Persons aged 16 years and over can be admitted to work involving exposure to radiation for professional training purposes for a period not exceeding six months.

Section 17

Obligations of workers exposed to radiation

- (1) A worker exposed to radiation is obliged to use radiation protection facilities, and his performance should not endanger himself, others or the environment due to harmful effects of radiation.
- (2) The radiation worker should have the qualifications required by the conditions of the license involving radiation activity and a certificate attesting his qualifications. The regulations covering the attestation and issuance of qualification certificates shall be established by the Government of the Republic.
- (3) The requirements set out in paragraphs 1 and 2 of this Section shall be implemented and financed by the licensee for the activity involving radiation.

Section 18

Health surveillance of radiation workers

- (1) Regulations governing the health surveillance of workers exposed to radiation shall be established by ordinance of the Minister of Social Affairs.
- (2) If there is justified doubt that the radiation worker has been exposed to radiation exceeding the standing limits, then the radiation worker should not continue radiation work before the circumstances and causes of exposure have been investigated and the permission for his (her) return to work is issued pursuant to the rules established by the Minister of Social Affairs.

- (3) If radiation exposure exceeding the standing limits has been ascertained, then the licensee for activity involving radiation has to suspend the activity which had caused the exposure and promptly carry out a medical examination of workers exposed to radiation.

Section 19

Public exposure

- (1) Exposure of the population caused by a permissible activity involving radiation is regarded as public exposure. Occupational, medical and natural radiation are not regarded as public exposure.
- (2) The effective dose for a member of the public, averaged over five consecutive years, should not exceed 1 milliSievert per year.
- (3) The effective annual public exposure dose should not exceed:
1. 15 milliSievert for the crystalline eye lens;
 2. 50 milliSievert for skin and extremities.

Section 20

Assessment of public exposure

- (1) Rules for monitoring and assessment of natural radiation, activity involving radiation and emergencies radiation doses to the public shall be established by ordinance of the Minister of the Environment.
- (2) In order to keep the public exposure at the lowest reasonable achievable level, the following issues should be considered at the time of issuance of the license for activity involving radiation:
1. the level of exposure to natural radiation;
 2. the additional radiation exposure which will be caused by the planned activity involving radiation;
 3. the risk caused by radioactive waste resulting from the planned activity involving radiation.

Section 21

Medical exposure

- (1) The subjects of medical exposure are:

1. patients involved in activities for diagnostic or therapeutic purposes;
 2. the person nursing the radiation-treated patient where nursing is not his (her) professional occupation and he (she) is aware of the radiation treatment of the patient;
 3. any person having voluntarily agreed to participate in biological or medical research.
- (2) The requirements for use of radiation for diagnostic and therapeutic purposes shall be established by ordinance of the Minister of Social Affairs.

Section 22

Emergency exposure

- (1) Radiation exposure received as result of an emergency requiring immediate safety measures is regarded as emergency exposure.
- (2) Emergency exposure of a worker exposed to radiation participating in planned intervention activity should not exceed the annual limit of occupational radiation exposure except for cases referred to in paragraph 3 of this Article.
- (3) If, in order to save human lives or to prevent serious injury to people, or in order to avoid large doses of public exposure, or catastrophe, it is not possible to observe the limits of the annual occupational exposure dose, then all possible measures to protect the health of the worker exposed to radiation participating in the intervention activity have to be taken.
- (4) All workers exposed to radiation referred to in paragraphs 2 and 3 of this Section must complete a mandatory health examination.
- (5) The Radiation Protection Centre shall decide, on the basis of medical results and on a case-by-case basis, whether a worker who suffered excess exposure to radiation may continue to work in this field.
- (6) All persons who have been in the area of an emergency shall carry out a medical examination.

CHAPTER 4

Radiation Sources

Section 23

General requirements

- (1) The requirements concerning the safety of the premises and buildings housing the radiation source including their structure, and the requirements for safe utilisation of the radiation source shall be established by ordinance of the Minister of the Environment.
- (2) The proprietor of the radiation source is obliged to render the radiation source harmless after termination of its use.
- (3) The proprietor of the radiation source is obliged to prove, at the request of the authorised State agency, the lawful ownership of the radioactive material or radiation device containing the radioactive material.

Section 24

Safety requirements

The packaging, labelling and safety facilities have to guarantee the safety of the radiation source. The requirements concerning packaging, labelling and provision of safety facilities of the radiation source shall be established by ordinance of the Government of the Republic.

Section 25

Installation, repair and maintenance of the radiation source

- (1) A licensee for activity involving radiation is permitted to install, repair and maintain radiation sources.
- (2) Repair and maintenance which do not involve parts of the radiation source emitting radiation can be performed without a license for activity involving radiation.

Section 26

Type approval

- (1) Radiation sources, radiation devices, radiation protection devices, which are essential from the viewpoint of radiation safety equipment and materials must have type approval.
- (2) The list of equipment, materials and consumer goods for which type approval is mandatory shall be established by ordinance of the Minister of the Environment. Type approvals shall be issued by the Radiation Protection Centre.
- (3) The expenses of type approval shall be covered by the owner of the equipment, material or consumer goods.

Section 27

Transport and marking and labelling of radioactive material, radiation equipment containing radioactive material and radioactive waste

- (1) Transport of radioactive material, radiation equipment containing radioactive material and radioactive waste can only be carried out under a license for activity involving radiation.
- (2) During transportation, export and import, containers holding radioactive material have to be marked with warning labels and be accompanied by radiation safety documents.
- (3) Regulations concerning the transportation of radiation devices containing radioactive material and radioactive waste shall be established by ordinance of the Government of the Republic.
- (4) The procedure for packaging and marking with warning labels and the requirements with regard to the accompanying radiation safety documents shall be established by ordinance of the Government of the Republic.

CHAPTER 5

Radioactive waste

Section 28

Definition of radioactive waste

Radioactive waste is:

1. substances containing radioactive material or substances contaminated with radioactive material where the level of radioactivity exceeds the limits stipulated in Section 6 of this Act, and for which there is no intention of future use.
2. radioactive material or radiation devices containing radioactive material the ownership of which cannot be established;
3. radioactive material or substances contaminated with radioactive material produced in nuclear facilities, and radioactive component parts of decommissioned nuclear facilities.

Section 29

Basic requirements for radioactive waste management

- (1) Radioactive waste management is the processing, isolation, relocation, storage, and final disposal of radioactive waste or the use of radioactive waste measures to avoid misuse of such waste.
- (2) The licensee for the activity involving radiation is responsible for radiation safety and the management of radioactive waste.
- (3) If the licensee for the activity involving radiation does not meet the radioactive waste management requirements, the waste is managed by the State at the expense of the licensee through a State procurement procedure.
- (4) If the owner of the radioactive waste is unknown, or the person responsible for the production thereof cannot be identified, then the waste shall be managed at the expense of the State.
- (5) If the possession or acquirement of a radiation source or radioactive waste is in conflict with this Act, then the radiation source or radioactive waste shall be transferred to the establishment responsible for radioactive waste management.
- (6) Final disposal of radioactive waste is arranged by the State through permanent deposit in a special repository.

(7) The rules for radioactive waste management shall be established by ordinance of the Minister of the Environment.

Section 30

Restrictions in regard to transfer and take-over of radioactive waste

(1) Take-over of radioactive waste shall be carried out according to rules established by the Minister of the Environment.

(2) The assignee of radioactive waste must have a license for activity involving radiation for radioactive waste management.

(3) The assignee of radioactive waste must prove the lawful possession of this waste to the authorised State body.

(4) The State confiscates without compensation all radioactive wastes if they are:

1. acquired illegally;
2. used in a manner dangerous for people and the environment.

(5) The further handling of radioactive waste confiscated by the State shall be decided by the Minister of the Environment.

Section 31

Export of radioactive waste

(1) For the export of radioactive waste, a permit issued under the rules and by the body established by the Minister of the Environment is required.

(2) It is prohibited to export radioactive waste to:

1. regions south of 60 degrees south latitude;
2. non-member States of the European Union which have concluded an agreement in this respect with the European Union;
3. States which have prohibited import of radioactive waste by their law;
4. States which do not have safe techniques of radioactive waste management.

Section 32

Import ban on radioactive waste

It is prohibited to import radioactive waste into Estonia for final disposal thereof.

CHAPTER 6

Final Provisions

Section 33

State supervision

- (1) State supervision of compliance with this Act and compliance with its implementing legislation is carried out according to relevant provisions of the national law.
- (2) The police, environmental surveillance agencies and the Radiation Protection Centre may demand proof of legality of ownership of radioactive material, devices containing radioactive material and radioactive waste.

Section 34

Specific provisions on the application of the Act

- (1) Existing licenses for activity involving radiation are to be exchanged for licenses in compliance with this Act not later than three years from its entry into force.
- (2) From the entry into force of this Act:
 1. the dose register has to be established in one year;
 2. regulations for issuance of type approval have to be established in three years;
- (3) Attestation rules of qualifications of radiation workers have to be established in two years.

Section 35

Amendments to existing legal instruments

Public Health Act (RT I 1995, 57, 978; 1996, 3, 56; 1996, 49, 953):

1. words “and dangerous radiation devices” are deleted from paragraph 5 of Section 4;
2. words “substances or devices containing radionuclides” are deleted from point 2 of paragraph 1 of Section 12;
3. words “and material or devices emitting dangerous radiation” are deleted from point 3 of paragraph 3 of Section 19.

Section 36

Liability of legal persons for violation of the Radiation Act

- (1) A fine of up to 30,000 kroons will be imposed on a legal person using a radiation source without a license for activity involving radiation or with an expired licence.
- (2) A fine from 10,000 to 20,000 kroons will be imposed for the violation of requirements of a license for activity involving radiation for the use of a radiation source, or the requirements under the Radiation Act, or the regulations established thereunder, otherwise the license for activity involving radiation may be suspended for up to three years.
- (3) A fine up to 20,000 kroons will be imposed for transfer of radioactive material, waste containing such material or radioactive waste with a view to their use upon persons who do not have a license for activity involving radiation.
- (4) A fine from 10,000 to 20,000 kroons will be imposed or the license for activity involving radiation will be suspended for up to three years, for violation of requirements for storage, use, accountancy, transportation or other handling requirements, where this violation did not cause death of humans or other serious consequences.
- (5) The Environmental Inspection is authorised to draw up the *procès-verbal* of administrative offence referred to in paragraphs 1, 2, 3, 4 of this Section.
- (6) Administrative Court judges are authorised to hear cases of offences referred to in paragraphs 1, 2, 3, 4 of this Section and impose penalties.
- (7) In the matters concerning administrative offences of legal persons specified in subsections (1), (2), (3) and (4) of this Section, including the imposition and contestation of sentences and the serving of administrative penalties, the proceedings are conducted as prescribed by the Code of Administrative Offences and the Code of Enforcement Procedure.