The new Austrian Act on Third Party Liability for Nuclear Damage

by Monika Hinteregger*

Introduction

On 7 October 1998, the Austrian Parliament adopted the Federal Law on Civil Liability for Damages caused by Radioactivity[1] which completely re-examines the principles governing liability for damages caused by ionising radiation. It governs the operation of nuclear plants, the carriage of radioactive material and the handling of radionuclides. The new liability law enters into force on 1 January 1999 and covers nuclear damages that are caused after this date. It replaces the 1964 Law on Civil Liability for Nuclear Damage (Atomhaftpflichtgesetz),[2] which, however, will remain applicable for nuclear damages caused before 1 January 1999.

The deficiencies of the 1964 law, discovered by the public in the wake of the Chernobyl disaster, have been the subject of legal[3] and political debate for the last decade. In the first place, it was deemed bizarre that the law only applied to nuclear installations situated in Austrian territory, in light of the fact that the operation of nuclear power plants in order to produce electrical energy is, due to a 1978 referendum, prohibited by law.[4] In Austrian territory there are only three small research reactors, which present comparatively low risks to their environment. The hazards of foreign nuclear power plants, however, were only covered by fault-based liability and nuisance law,[5] originally intended to regulate conflicts between neighbouring land owners.[6] Extremely low liability amounts and the fact that liability was restricted even in cases of negligence on the part of the liable person were considered an unfair privilege granted solely to the nuclear industry.

---

* Monika Hinteregger is Professor of Law, Department of Civil Law at the University of Graz, Austria. The facts contained and ideas expressed in this article are the responsibility of the author alone.

1. *Bundesgesetz über die zivilrechtliche Haftung für Schäden durch Radioaktivität (Atomhaftungsgesetz 1999).*

2. *Bundesgesetz vom* 29 April 1964 *über die Haftung für nukleare Schäden (Atomhaftpflichtgesetz), BGBl 1964/117*. This law was substantially amended by the Federal Law, BGBl I 1997/140, that entered into force on 1 July 1998.

3. Helmut Koziol: *Österreichisches Haftpflichtrecht*, Vienna, 1984, vol. 2, 2nd ed., pp. 445 - 482; Georg Wilhelm: *Betreffs Atomhaftpflicht Handlungsbedarf!* ecolex 1996, pp. 653-654; Monika Gimpel-Hinteregger: *Das österreichische Atomhaftungsrecht,* in: *Umweltbundesam*t, Atomare Risken – Wirtschaftliche und rechtliche Aspekte, Vienna 1997, pp. 50-59.

4. *Atomsperrgesetz, BGBl 1978/676.*

5. Section 364 (a) of the Austrian Civil Code (ABGB).

6. See Monika Gimpel-Hinteregger: *Das österreichische Atomhaftungsrecht,* in: *Umweltbundesamt, Atomare* Risken – *Wirtschaftliche und rechtliche Aspekte,* Vienna 1997, pp. 55-56.

In the course of this discussion, heavy opposition was raised against the principle of legal channelling as well. Although Austria has not yet ratified either the Paris[7] or the Vienna Convention,[8] the old Austrian law concentrated liability for nuclear damage exclusively on the operator of the nuclear plant. Combined with the operator's limited liability or limited resources, this inevitably meant a detriment to the legal position of the injured person that was unique in Austrian tort law. Furthermore, releasing every other person, especially the supplier of services or products, from liability, involves the risk of inducing these persons to reduce the level of care exercised.

It soon became quite clear that the field of third party liability for nuclear damages needed radical change. In 1995 the Austrian Parliament adopted a resolution[9] in which the Federal Government was requested to revise and modernise the Austrian Nuclear Liability Law, and above all to adjust liability amounts to reflect the hazardous nature of nuclear installations, to abate the privileges operators of nuclear plants enjoy under fault-based liability and to eliminate legal channelling.[10] In addition, the Federal Government was ordered not to present the Paris Convention for ratification until essential improvements, namely the elimination of legal channelling, were made. As legal channelling is also indispensable for the accession to the Convention on Supplementary Compensation for Nuclear Damage ("SCC"),[11] this option, temporarily taken into consideration by some political pressure groups, was turned down too. Finally, the Federal Government and Parliament decided to completely break away from the approach toward nuclear liability law taken by the Paris and Vienna Convention.

The outcome of this political process, the new Nuclear Liability Law, stands in sharp contrast to the basic principles of international nuclear law. Liability is unlimited in amount. Legal channelling is, to a great extent, eliminated and there is no exclusive jurisdiction, as is provided for by international nuclear liability law. The new law makes sure that an Austrian court has jurisdiction, and that Austrian law is applicable, if nuclear damage occurs in Austria, regardless of where it was caused. Further contents of the new law are a substantial extension of the definition of nuclear damage and regulations in order to facilitate the proof of causality.

Although the Austrian legislature has decided not to be a part of the international nuclear liability regimes for the moment, this is not necessarily meant to be forever. The Austrian Parliament has taken an intense interest in the further development of the international nuclear liability system. According to Section 30 of the new Nuclear Liability Act, the Federal Government is obliged to report regularly to the Parliament on the development of the international instruments on nuclear liability. In a simultaneously adopted resolution,[12] the Parliament holds out the prospect of revising its decision if the international system of nuclear liability improves to such an extent that it is able to ensure adequate compensation for nuclear damages. For that purpose, the Federal Government is further requested to continue participating actively in international negotiations in order to support the development of this system.

---

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

8. Convention on Civil Liability for Nuclear Damage of 21 May 1963, IAEA Legal Series, No. 3, Re. 10, Agreement No. 1277.

9. Resolution of 9 February 1995, 89 BlgNR XIX.GP.

10. These requirements were repeated by the Resolution of 10 July 1997, 74 BlgNR XX.GP.

11. Convention on Supplementary Compensation for Nuclear Damage of 12 September 1997.

12. Resolution of 7 October 1998, 1415 BlgNR XX.GP, annex 2.

Major provisions of the new Nuclear Liability Act

1. Scope of liability

The Nuclear Liability Act 1998 covers two different fields of liability: liability for damages caused by radiation from nuclear plants and nuclear material and liability for damages caused by radiation from radionuclides. The damage may be caused by ionising radiation alone or in combination with the other hazardous properties of the nuclear material or radionuclide.[13] The definition of nuclear material follows the definition given by the Federal Law Establishing a Security Control in the Field of Nuclear Energy,[14] which itself is based on Article 18 of the Convention on the Establishment of a Security Control in the Field of Nuclear Energy.[15] According to this definition the term nuclear material means "special fissionable material"[16] and "source material".[17] A nuclear plant is a plant containing nuclear material in such an arrangement that a self-sustaining chain process of nuclear fission can occur, such as nuclear reactors or facilities for the production, processing, utilisation, storage, reprocessing or disposal of nuclear material, including isotope isolation plants. Liable persons are the operator of a nuclear plant, the carrier of nuclear substances and the holder of radionuclides.

The liability imposed on the operator of a nuclear plant and the carrier of nuclear material is unlimited, is irrespective of fault, and does not depend on the occurrence of a nuclear incident. The carrier is liable for damages caused during the carriage of nuclear material by land, air or sea unless he or she proves that he or she neither knew nor should have known that the goods transported were nuclear material.[18] The operator of a nuclear plant is the holder of the licence and any other person who is entitled to control the operation of the nuclear plant and who actually derives or is at least in the factual or legal position to derive its operating profits.[19] This allows for the possibility of piercing the corporate veil in cases where intercorporate regulations abusively exempt the controlling company from liability by shifting the liability to an under-endowed operating company. The operator of a nuclear plant is liable for all damage caused by the operation of the plant including the dismantling of the plant and the disposal of radioactive inventory.[20] The operator's liability also covers damages caused outside his or her plant by radioactive material originating from the plant if the damage is caused before another operator has taken charge of this material, or, where the material was sent to the operator, if the damage is caused after the operator has got the legal right to dispose of the material.[21]

---

13. See Section 5(1) concerning radioactive substances and Section 9(1) concerning radionuclides.

14. *Sicherheitskontrollgesetz*, BGBl 1992/415.

15. BGBl 1960/20.

16. Article II section 1 sub-paragraph 1: The term "special fissionable material" means plutonium-239, uranium-233, unranium enriched in the isotopes 235 or 233, any material containing one or more of the foregoing, according to the statute of the IAEA.

17. Article II section 1 sub-paragraph 3: The term "source material" means uranium containing the mixture of isotopes occurring in nature, uranium depleted in the isotope 235, thorium, any of the forgoing in the form of metal, alloy, chemical compound, or concentrate.

18. Section 4.

19. Section 2 sub-paragraph 4.

20. Section 3(1).

21. Section 3(2).

The operator's liability under the Nuclear Liability Act does not cover damages to the nuclear plant itself and to any other nuclear plant, in operation or under construction, situated on the same site, or to any property on the site of the plant which is used or was used in connection with that plant. The carrier shall not be liable for damages to the means of transport used to forward the nuclear substances involved.[22] Apart from this exemption, no grounds of exoneration from liability are provided. Events like acts of armed conflict, hostilities, civil war or insurrection, as provided for in the Vienna[23] or the Paris Convention,[24] do not discharge the operator or carrier from liability. It is presumed that, even under such circumstances, it is up to the liable person to take adequate precautions.

The operator of a nuclear plant situated on Austrian territory is required to maintain insurance covering his or her liability for nuclear damage of at least 5.6 billion ATS (approximately 400 million Euro) plus 560 million ATS (40 million Euro) for interest and costs. For research and pilot plants, the minimum amount is fixed at 560 million ATS plus 56 million ATS for interest and costs.[25] The carrier of nuclear material is obliged to maintain insurance coverage of at least 560 million ATS plus 56 million ATS for interest and costs. For the carriage of source material, the minimum amount is 56 million ATS plus 5.6 million ATS for interest and costs.[26] This insurance has to cover all damages that are caused during its term of validity. Damages due to war, acts of armed conflict, hostilities, civil war, riot or insurrection are excluded from the scope of the insurance policy.[27]

The liability imposed on the holder of radionuclides is fault-based.[28] The holder is exonerated from liability upon proof that due care was exercised by him (her) and his (her) employees. The burden of proof lies with the holder.[29] If the radionuclide was used for medical treatment, the holder's burden of proof is only related to the technical circumstances of the utilisation of the radionuclide. The proof of medical malpractice, on the other hand, is regulated by contractual liability law. Liability is unlimited and must be covered by financial security in the way and to the extent customary in the ordinary course of business.[30]

All claims can also be brought directly against the insurer. Where there are several insurers, the insurers are jointly and severally liable. The same holds true concerning the liable person and the insurer(s).[31]

---

22. Section 5(2).

23. See Article 4(3) of the Vienna Convention (as amended by the Protocol of 12 September 1997).

24. See Article 9 (providing that a grave natural disaster of an exceptional character is as ground of exoneration, unless excluded by national legislation).

25. Section 6.

26. Section 7.

27. Section 6(1) and Section 7(1).

28. See Section 9(1).

29. See Section 9(2).

30. See Section 10.

31. Section 24.

2. Concurrent liability and multiple tortfeasors

Principally, liability for nuclear damage is not channelled to the operator of the nuclear plant or to the carrier of nuclear material. The Nuclear Liability Law does not restrict any liability obligations provided by other liability provisions. The injured person is free to assert his or her claim for nuclear damages against the operator of a nuclear plant or against the carrier of nuclear material pursuant to this law or to another law as well as to another person. Claims may be based, for example, on the general provisions of tort law, on products liability law or on state liability law.

The right of the injured person to enforce a claim by legal action against the supplier of products or services to a nuclear plant, however, is restricted. The action will be dismissed if the defendant can prove that an action against the operator will lead within a reasonable period of time to a decision, that this decision can be enforced, and that there are sufficient funds available to ensure compensation on behalf of the operator.[32] If this assumption proves false, the case against the supplier can be reopened. This provision is intended to make sure that responsibility for nuclear damages stays primarily with the operator, who is in the best position to prevent the damage and to provide insurance if damage occurs. Consequently, the operator's right of recourse is barred as well, unless, according to the relevant provisions of the Paris and the Vienna Convention,[33] the damage was caused by an act or omission done with the intent of causing damage, or unless the right of recourse is expressly provided for by contract.[34] With that, the costly necessity to duplicate insurance is reduced, although not totally omitted as it is under the scope of the Paris or Vienna Convention.

In cases of multiple causation, each tortfeasor is judged by the relevant liability law applicable. Insofar as the damage cannot be attributed to one tortfeasor, all of them will be held jointly and severally liable.[35] Contributory negligence on behalf of the injured party leads to apportionment of the loss.[36]

---

32. Section 16(2).

33. See Article 6 sub-paragraph (f) of the Paris Convention and Article X of the Vienna Convention (as amended by the Protocol of 12 September 1997).

34. Section 19(3).

35. Section 18.

36. Section 15 in connection with Section 1304 Civil Code (ABGB).

3. Concept of nuclear damage

The definition of nuclear damage was significantly broadened.[37] The restrictions provided for by the old Nuclear Liability Law[38] were eliminated and, according to the new concept of nuclear damage as provided by the SCC and the revised Vienna Convention,[39] new categories of damage, such as environmental damage or costs of preventive measures, were introduced.

Section 11(1) provides simply that compensation of property damage also includes decontamination costs. Pursuant to this section, compensation for loss of life or personal injury and loss of property or damage to property shall be regulated by the general provisions of tort law. The person who has suffered such loss or damage is also entitled to claim economic losses arising from these damages.[40] In this context it is worth mentioning that it is a general principle of Austrian tort law that damage for personal injury covers compensation for pain and suffering, even when liability is absolute.

If the damage to property presents a significant impairment of the environment, costs of measures of reinstatement are to be reimbursed, even if these costs exceed the market value of the impaired good.[41] The plaintiff may ask for advance payment. The amount exceeding the market value of the impaired good, however, has to be refunded if restoration to the original condition is not performed within a reasonable amount of time. Impairment of the environment that is not at the same time damage to property does not entitle one to damages.

Liability for nuclear damage also comprises the costs of preventive measures taken to remove an imminent threat of causing damage. The entitlement to this claim lies with the person who actually has paid the costs.[42] "Further loss or damage caused by such measures", as provided for in Article 1(1) sub-paragraph (k)(vi) of the Vienna Convention and in Article I sub-paragraph (f)(vi) of the SCC, as well as "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",[43] and "any other economic loss"[44] are only recoverable if that damage can be classified as loss of income. Even then, the claim is limited in amount. Together with compensation for nonpecuniary damage, pursuant to section 11, subsection 3, the amount must not exceed ATS 560 000 (approximately 40 000 Euro) per person.[45] Nonpecuniary damage will be awarded if a person, due to preventive measures or radioactive contamination, is forced to undergo a radical and unwanted change of life, for example, the giving up of a home, job or business.

---

37. See Section 11.

38. Section 12 of the old Nuclear Liability Law granted compensation for pain and suffering only on the condition of long infirmity. This restriction has already been eliminated by the amendment of 1997.

39. See Article I, sub-paragraph f SCC and Article 1(1) sub-paragraph k of the Vienna Convention (as amended by the Protocol of 12 September 1997).

40. As is expressly provided by Article I, sub-paragraph (f)(iii) of the SCC and Article 1(1) sub-paragraph (k)(iii) of the revised Vienna Convention.

41. Section 11(2).

42. Section 11(3).

43. Article 1(1) sub-paragraph k (v) of the revised Vienna Convention and Article I, sub-paragraph f (v) SCC.

44. Article 1(1) sub-paragraph k (vii) of the revised Vienna Convention and Article I, sub-paragraph f (vii) SCC.

45. Section 11(4).

4. Proof of causation

Personal injury due to nuclear radiation ranges from acute radiation exposure, to only statistically registered damage, to genetic damage which will only come to bear on future generations. If radiation does not immediately lead to a specific radiation disease, the person affected by radiation will be in a difficult position to establish the causal link. To ease the burden of proof in such cases, Section 12(1) establishes a presumption of causality. If an injured person can submit reasonable evidence of having been physically exposed to nuclear radiation originating from a nuclear plant, from nuclear material or radionuclides, it will be presumed that the injury was caused by nuclear radiation, provided that nuclear radiation is known to be a cause of such damage. The presumption can be rebutted by the defendant by proving that it is probable that the damage was not caused by nuclear radiation. For the rebuttal it would be sufficient to show that in the case under consideration other causes were more probable than nuclear radiation.

This presumption of causality cannot be applied by a patient if radionuclides were used for the purpose of medical treatment.[46]

Sections 13 and 14 regulate the right of the person who has suffered nuclear damage to access to specific information held by the liable persons.

5. Jurisdictional provisions and applicable law

As liability is not limited in amount there is no need for exclusive jurisdiction. According to Section 22, the plaintiff has the right to bring the action or the motion for a temporary injunction both before the court in the jurisdiction in which the damage has been caused, as well as before the court in the jurisdiction in which the damage has occurred. Claims concerning preventive measures can also be brought before the court where the preventive measures were performed.

One main goal of the new law is to make sure that if nuclear damage, though caused in a foreign state, occurs in Austrian territory, an Austrian court will have jurisdiction and Austrian law will be applicable. Section 23, therefore, provides that Austrian law is applicable if radiation from a foreign territory causes nuclear damage in Austria. Under this precondition, the injured person has the right to require the application of Austrian law. However, if nuclear damage has occurred in a foreign territory, the situation is different. If Austrian law is applicable – a fact that is determined by the private international law of the state that has jurisdiction – the plaintiff will only be able to benefit from the Austrian law insofar as his or her national law would provide for compensation as well.[47] The plaintiff, therefore, can not recover for the loss if the damage, for instance, has already become statute-barred under this law, or if the required sum exceeds the provided liability amount, or if the action against the defendant was barred because of legal channelling. The main target of this provision, apart from the wish of providing an incentive for other states to grant the same benefits as the Austrian law, is to protect the Austrian suppliers to nuclear plants, as they are amongst the very few suppliers in the world who, in future, will not be protected by legal channelling. While it seemed fair enough to make them liable for the damages they cause to Austrians and to nationals of states that do not provide for legal

46. Section 12(2).

47. Section 23(2).

channelling, it was deemed out of proportion to give the right of legal action against a supplier to nationals of these states that reject such an action.

STUDIES

Regulatory and Institutional Framework for Nuclear Activities in the Slovak Republic*

I. GENERAL REGULATORY REGIME

1. Introduction

On 1 January 1993, the former Czechoslovakia was divided into the Slovak Republic and the Czech Republic. To ensure a smooth transition of legal regimes, it was agreed that, *inter alia*, all acts, regulations and decisions in the field of nuclear energy and ionising radiation would continue to apply until subsequent legislation was enacted, provided that such laws were consistent with the Constitution of the Slovak Republic.

On 1 April 1998, the National Council passed the Act on the Peaceful Use of Nuclear Energy (and on alterations and amendments to Act No. 174/1968 Zb.[48] on State Supervision of Work Safety as amended by Act of the National Council of the Slovak Republic No. 256/1994 Z.z.[49]) [Act No. 130/1998 Z.z.] (hereinafter referred to as the "Act"). It came into force on 1 July 1998 and provides a comprehensive framework for the regulation of nuclear activities in the Slovak Republic. Throughout the legislation there are provisions for implementing legal regulations, some of which have been promulgated, with others under preparation or still to be prepared. Until replaced by such implementing regulations, the regulations in force in the former Czechoslovakia remain in force, provided that such regulations are consistent with the new Act.

In the former Czechoslovakia, the principal authority regulating nuclear activities was the Czechoslovak Atomic Energy Commission (*Ceskoslovenska Komisia pre atómovúenergiu – CSAEC*). Its successor in the Slovak Republic is the Nuclear Regulatory Authority of the Slovak Republic (*Úrad Jadrového Dozoru Slovenskej republiky – ÚJD-SR*) (hereinafter referred to as the "Authority"). The responsibilities and tasks of the Authority are identified in Act No. 2/1993 Z.z., which specifies its independent status in nuclear safety matters.

---

* This study was prepared by the NEA Secretariat in co-operation with the Slovak authorities.

48. Zb. (*Zbierka*), meaning from the collection of laws of the former Czechoslovakia.

49. Z.z. (*Zbierka zákonov*), meaning from the collection of laws of the Slovak Republic, which start from 1 January 1993.

The Slovak Republic is heavily dependent on external primary energy resources, importing more than 80 per cent of its needs, particularly oil, gas and nuclear fuel from the Russian Federation. This makes the efficient generation of electrical power of crucial importance. The unit cost of electricity generated by nuclear power plants in the Slovak Republic is half that of electricity generated by its fossil power plants.

At Jaslovské Bohunice there are two VVER 440/230 (first generation) and two VVER 440/213 (second generation) nuclear reactors, representing nearly half of the country's electricity production. Within Bohunice V-1 nuclear power plant (NPP), units 1 and 2 were commissioned in 1978 and 1980, respectively, and within Bohunice V-2 NPP, units 3 and 4 were commissioned in 1984 and 1985, respectively. An earlier unit at the Bohunice NPP (Bohunice A1) is in the process of being decommissioned. The Bohunice site includes an interim spent fuel storage facility for spent fuel from the VVER reactors, as well as facilities for radioactive waste treatment.

At Mochovce, an additional VVER 440/213 reactor was commissioned and connected to the grid in 1998, with a further reactor still under construction and due to be commissioned in 1999. Two more units of the same type are under consideration for this site for the first decade of the next century. Also at Mochovce, there is a disposal facility for low and medium level radioactive waste, which is currently in the process of being licensed.

2. Mining Regime

There has been no uranium mining in the Slovak Republic since its discontinuation in 1990. There are, however, still in force, mining laws which applied to the previous mining of uranium. These laws are as follows:

a) Section 34(1)(b) of Act No. 44/1988 Zb. on protection and utilisation of mineral resources (the Mining Act), as amended by Act No. 498/1991 Zb.;

b) Section 11 of Act No. 51/1988 Zb. on mining activities, explosives and State mining, as amended;

c) Section 5(c), Sections 6(1) and 6(2)(e) and annexes Nos. 9 and 10 to Decree of the Slovak Mines Inspectorate [*Slovensky bansky urad*] No. 89/1988 Zb. on rational utilisation of exclusive deposits, on permits for and registration of mining activities, as amended by Decree of the Slovak Mines Inspectorate No. 16/1992 Zb.

3. Nuclear Materials and Equipment

Section 9(1) of the Act defines "nuclear materials" as comprising the following "source materials": natural uranium, depleted uranium, thorium and any of these materials in the form of metal, alloy, chemical compounds or concentrates and materials containing one or more of the aforementioned substances in a minimum quantity of 0.005 kg; and the following "special fissionable materials": plutonium-239, 241, uranium-233, uranium enriched in 235 or 233 isotopes and materials containing one or more of the aforementioned isotopes in a minimum quantity of 0.005 g.

The Act exempts from the definition of "nuclear materials" uranium and thorium ore during mining and processing [Section 9(2)].

Nuclear materials may only be procured and used on the basis of a permit issued by the Authority [Section 10(1)]. The permit may be for a specified period of time, but the maximum period is ten years [Section 10(2)].

The general requirements for the issuance of an authorisation (both in respect of nuclear materials and for nuclear installations) are set out in Sections 5, 6 and 7 of the Act. In brief, Section 5 sets out the qualifications required of the applicant, Section 6 lays down the details required in the application form and Section 7 states when and in what form the decision must be issued by the Authority.

An authorisation is terminated on expiry of its period of validity, by a decision of the Authority to withdraw the authorisation, by the holder of the authorisation being struck off the commercial register, or, in the case of a natural person, by the death or declaration of death of that person [Section 8(1)]. An authorisation may be withdrawn or restricted by the Authority if: the holder of the authorisation ceases to meet the conditions under which it is issued; the holder of an authorisation, while carrying out activities, in some significant way threatens the life or health of persons or causes damage to the environment; or the Authority subsequently ascertains that the authorisation was issued on the basis of incorrect or incomplete information [Section 8(2)].

If a person has procured or is using nuclear materials and does not observe the obligations arising out of the permit and, further, does not remedy the breach within the period stipulated by the Authority, the Authority may require the nuclear materials to be transferred, at the expense of the person concerned, to another person who has an authorisation [Section 10(5)]. In the case of nuclear materials in respect of which the owner is not known or which were procured in violation of this Act, the Authority is required to order the holder of an authorisation to manage such materials, with reimbursement of the consequent expenses being made in accordance with Section 17(10) of the Act [Section 10(6)].

Under Section 12(1) any persons (legal or natural) who produce, process, store or procure nuclear materials are obliged to:

a) keep accounting and operational records of these materials and submit reports of the accounting records to the Authority;

b) appoint an employee with a special qualification, and his deputy, to keep accounting and operational records of control of nuclear materials, and notify the Authority of their names;

c) notify the relevant police authorities, the Ministry of Health and the Authority, without delay, of any loss or misappropriation of nuclear materials;

d) inform the Authority of any interference with equipment under surveillance by the Authority or an international organisation under an international safeguards agreement, and of any accident which led to or could have led to violation of the integrity of nuclear material; and

e) enable access, in the presence of inspectors from the Authority, of inspectors from international organisations under an international safeguards agreement governing nuclear substances, and to provide them with the necessary support during their inspections.

Details of the requirements for accounting and operational records, and for the control and notification of incidents relating to nuclear materials, are to be established by a regulation issued by the Authority [Section 12(2)]. Until then, the legal framework for nuclear material accountancy and control is set out in Regulations issued by the Czechoslovak Atomic Energy Commission [Regulation No. 28/1977 Zb. of 12 April 1977]. These are comprehensive in nature and, *inter alia*, nominate who is responsible [Articles 5 and 7], the details to be kept [Article 6], physical inventories to be taken [Article 8], reports to be made to the Authority [Article 9] and various other provisions aimed at ensuring the accurate tracking of nuclear materials.

The Authority plays a central role in the regulation of nuclear materials and its powers in relation to nuclear materials are, *inter alia*, set out in Chapter 6 of the Act. In particular, the Authority is empowered to issue permits for receiving nuclear materials and their utilisation, the management of spent fuel and radioactive waste, the import or export of nuclear materials and equipment, and the transportation of nuclear materials [Section 31(b)]. It performs State supervision of nuclear materials and equipment and of the arrangements in place for their physical protection [Section 32(1)].

4. Nuclear Installations

a) Licensing

Under Section 13(1) of the Act "nuclear installation" means:

a) installations and facilities incorporating a nuclear reactor utilising a controlled fission chain reaction;

b) installations and facilities for the production, treatment and storage of nuclear materials;

c) installations and facilities for the disposal of spent nuclear fuel;

d) installations and facilities for the processing, conditioning, storage and disposal of radioactive waste.

The general rule under the Act is that any use of nuclear energy requires an authorisation issued by the Authority [Section 4(1)]. In particular, the Authority is responsible for issuing authorisations, *inter alia*, for the siting, design, construction, importation, commissioning, operation and reconstruction of nuclear installations and their decommissioning; the design, planning, construction, manufacture, importation, assembly, testing, maintenance, repair and reconstruction of selected equipment; and the specialist training of nuclear installation employees at specialist institutions.

The general provisions governing who may apply for authorisations, the form of applications and when and in what form the Authority's decision must be made in respect of authorisations are set out in Sections 5, 6 and 7 of the Act (see Section 3 of this Study, *supra*, in relation to Nuclear Materials and Equipment).

Licensing for the construction of nuclear installations is dealt with separately in Section 14 of the Act. First, the construction of nuclear installations is governed by the Construction Act [Act No. 50/1976 Zb.], unless otherwise stipulated in the Act [Section 14(1)]. The construction of a nuclear installation may only be carried out by a holder of an authorisation (in the Act referred to as the "builder") on the basis of a permission granted by the Authority [Section 14(2)]. The Authority decides

on whether to issue a permission on the basis of a written application from the builder supported by the following documents: safety analysis report; design specifications; provisional plan for the management of radioactive waste and, if appropriate, of spent nuclear fuel; conceptual plan for decommissioning of the nuclear installation; classification of selected equipment by safety classes; preliminary physical protection plan; quality assurance programme for construction; preliminary on-site emergency plan; proposal of limits and conditions for safe operation; preliminary programme for pre-operational inspection of the nuclear installation; and preliminary radiation monitoring programme of the environment in the vicinity of the nuclear installation.

As a condition to granting permission for construction, the Authority may require the fulfilment of specified nuclear safety requirements [Section 14(5)]. Following the issuance of a statement of intent by the Authority regarding permission for the construction of a nuclear installation, there is a requirement for evaluation of the proposal by the Ministry of Environment under Act No. 127/1994 Z.z. on environmental impact assessment [Section 14(6)].

In addition to the provisions governing construction in the Act, there are also detailed regulations to be observed, which, at the moment, are those issued by the former Czechoslovakian authorities [Regulation No. 2/1978 Zb. on the assurance of nuclear safety in designing, approving and constructing a nuclear power installation; Regulation No. 4/1979 Zb. on the general criteria for the assurance of nuclear safety in siting and constructing a nuclear power installation; and Regulation No. 378/1992 Zb. of the Slovak Commission of the Environment].

To commission and operate a nuclear installation, as with construction, the holder of an authorisation ("operator") must obtain a permission from the Authority [Section 15(1)]. To obtain a permission to commission a nuclear installation, the operator is required to submit an application supplemented by the safety documentation stipulated in Section 15(2) of the Act. This safety documentation falls into two categories: that submitted for approval and that submitted for review. A permission to operate a nuclear installation is issued by the Authority on submission of an application supplemented by a report evaluating the commissioning stages of the nuclear installation [Section 15(3)]. The permission for commissioning or operating a nuclear installation may be made conditional upon fulfilment of requirements relating to nuclear safety [Section 15(4)]. The operator must adhere to the assessed or approved documentation submitted under Section 15(2), which may only be deviated from with the prior permission from the Authority [Section 15(5)].

As with construction of a nuclear installation, in addition to the provisions of the Act there are also detailed regulations to be observed with respect to the commissioning and operation of a nuclear installation. The regulations presently in force derive from the former Czechoslovakia [Regulation No. 6/1980 Zb. on the assurance of nuclear safety in the commissioning and operation of nuclear power installations].

The Authority may extend the validity of a permission issued for the operation of a nuclear installation, depending on the current state of the installation and on the basis of supplementary safety documentation [Section 16(1)].

b) Inspection

The Authority is empowered under the Act to perform State supervision of: nuclear safety at nuclear installations; management of radioactive waste and spent nuclear fuel; nuclear materials, special

materials and equipment; physical protection of nuclear installations, nuclear materials and radioactive waste from nuclear installations; and emergency planning.

In carrying out State supervision, the Authority is required under the Act to:

a) conduct inspections of workplaces, operations and facilities at nuclear installations, to determine how applicable duties are being fulfilled, and whether operating limits and conditions and quality assurance systems are being adhered to;

b) inspect fulfilment of obligations arising out of international agreements relating to nuclear safety and management of nuclear materials and radioactive waste (including spent fuel);

c) investigate accidents, incidents and selected malfunctions at their place of occurrence;

d) verify the conduct of obligatory reviews, surveys, operational checks and tests on selected equipment at nuclear installations;

e) order the corrective actions for deficiencies affecting nuclear safety;

f) assess nuclear safety at nuclear installations independently of their operator; and

g) inspect the content and practices of emergency plans.

There is an obligation on the part of the holders of authorisations, or other persons responsible for nuclear materials, to submit all materials, documentation, information and expert analyses required for State supervision. They must also co-operate with the Authority, as required for it to carry out State supervision, and apply the results of its findings in their activities [Section 33(1)]. The Authority is required to make reports to the Government and the relevant public service bodies, on deficiencies identified and the measures taken to remedy them [Section 33(3)].

Inspectors appointed by the Authority must have the required qualifications and have passed an inspector's examination [Section 34(2)]. During the performance of State-governed inspection, they are required to prove their identity using the identification card issued by the Authority [Section 34(3)].

Under the Act an inspector is authorised:

a) to have access at any time to facilities and areas in nuclear installations and to areas in which nuclear materials, special materials and equipment are located, or radioactive waste management is being conducted; to carry out reviews and control actions in them; to require the submission of relevant evidence and documentation, information and explanations; to ensure that employees have the appropriate professional qualifications, and in particular, that the selected employees are familiar with regulations; to control the implementation of conditions for the performance of work; to identify the status, causes and consequences of operating events; to check the status of emergency planning;

b) following discussion of identified deficiencies with the operator, to give binding orders for the necessary steps to eliminate such deficiencies; and

c) to confiscate the certificate of a particular professional qualification if the relevant employee has flagrantly or repeatedly violated operating procedures or is unsuitable as regards the particular professional qualification.

As a means of enforcement, the Authority is empowered to impose various penalties for violations under the Act [Section 36]. This includes the power to impose a further penalty of up to double the amount of the initial penalty on a person who has not remedied the deficiencies for which the initial penalty was imposed within the given period [Section 36(6)]. A penalty may be imposed within a year of the date that the Authority identified the breach, but no later than three years from the day when the breach took place [Section 36(7)]. The imposition of a penalty on a holder of an authorisation does not impinge upon the criminal responsibility of the holder's employees [Section 36(9)]. Penalties are to be paid into the State Fund for Decommissioning of Nuclear Power Plants and Management of Spent Nuclear Fuel and Radioactive Waste [Section 36(10)].

c) Emergency Response

Under the terms of the Act, an "event at a nuclear installation" means an event in which there is a risk of an infringement of nuclear safety at the nuclear installation during its commissioning, operation or decommissioning [Section 24(1)].

Events at nuclear installations are divided into:

a) a malfunction causing an infringement of nuclear safety requirements, or identification of deficiencies which could have led to the occurrence of an accident or emergency situation;

b) an accident which caused minor damage to a nuclear installation or harm to the health of employees, which led however to an automatic shutdown, or enforced shutdown for maintenance, infringement of limits and conditions, release of radioactive materials or contamination or irradiation of employees;

c) an emergency situation in which the nuclear installation was seriously damaged or there was or might have been serious harm to health due to the impact of ionising radiation or release of radioactive materials into the environment.

An operator is obliged to take preventive and corrective measures in a timely manner and eliminate without delay all situations which could pose a threat to nuclear safety or to human life or health; to give notification of events to the Authority, and, in the case of accidents or emergency situations, also to the Ministry of the Interior; identify the causes of such events and take corrective action based on the identified causes; to take steps in the operation of the nuclear installation to prevent their recurrence; and to inform the public of the occurrence of incidents and accidents.

In the event of a hazard arising, or if serious circumstances arise which are of significance for nuclear safety, physical protection or emergency readiness, the Authority may order the holder of an authorisation to take certain steps, including a reduction in output or shutdown of a nuclear installation or cessation of its construction, to cease using nuclear material or to cease radioactive waste management [Section 35].

Under the Act, the Authority is required to identify the causes and circumstances of accidents, emergency situations and serious malfunctions. This does not detract from the specific regulations which govern the investigation of exceptional incidents [Section 24(6)].

"Emergency planning", as defined in the Act, means a set of measures to identify and bring under control accidents at nuclear installations and to identify and bring under control releases of radioactive substances into the natural environment during the use and transportation of nuclear materials or radioactive waste [Section 25(1)]. An emergency plan is documentation, the content of which is a set of technical and organisational measures required to bring events under control or to mitigate their consequences [Section 25(2)]. Emergency plans fall into the following categories:

a) emergency plan for nuclear installation ("on-site emergency plan") which contains planned measures to be taken on-site, linked to a plan for the protection of the public;

b) a plan for protection of the public which contains measures to protect public health and property and the environment in the hazard area, also linked to the on-site emergency plan;

c) emergency transport procedure in relation to the transportation of nuclear materials or radioactive waste (see under Section 9 of this Study, *infra*, in relation to Transport).

The operator is responsible for preparation of an on-site emergency plan [Section 25(5)], which must be submitted to the Authority for approval and to the Ministry of Internal Affairs for consideration six months prior to the planned commencement of commissioning of a nuclear installation [Section 25(9)]. The local authorities are responsible for the plan for protection of the public within regions, districts and communities, with the Ministry of the Interior being responsible for co-ordination [Section 25(6)]. The Ministry of the Interior is responsible for civil defence during radiological accidents and for assistance in case of a nuclear accident or radiological emergency (Law on Civil Protection No. 42/1994 Z.z.).

Prior to the commissioning of a nuclear installation, emergency plans must be practised, and during the operation of nuclear installations certain parts of emergency plans must be practised and evaluated at set intervals [Section 25(14)].

There is a general obligation on the part of operators and State authorities to make available to the Authority data required to evaluate accidents and to forecast their development. The data might consist of technological data from the nuclear installation, radiation monitoring data, meteorological data and other data as requested by the Authority [Section 25(18)].

The Slovak Republic succeeded to the 1986 Convention on Early Notification of a Nuclear Accident and to the 1986 Convention on Assistance in Case of a Nuclear Accident or Radiological Emergency on 10 February 1993.

d) Decommissioning

Under the Act it is the operator who is made responsible for the decommissioning of a nuclear installation (which for the purposes of Section 19 does not include a radioactive waste or spent nuclear fuel repository) and who must ensure that the financial means are available to do so [Section 19(2)]. Act No. 254/1994 Z.z. and Decree No. 14/1995 Z.z. establish a State Fund for the decommissioning of nuclear power plants and the management of spent fuel and radioactive waste arising from their decommissioning. The Act was adopted by the National Council (Parliament) on 25 August 1994 and entered into force on 1 January 1995. The Fund, which is established as a separate legal entity, is managed by the Ministry of Economy which appoints the Fund's Director. The Ministry has also set up a Steering Committee made up of seven members, experts in the fields of nuclear energy, health, environmental protection, economy and public administration to provide advice on the distribution of funds.

The operator must submit an updated conceptual plan for decommissioning, together with an environmental impact statement (pursuant to Act No. 127/1994 Z.z. on environmental impact assessment) [Section 19(3)]. Decommissioning may only commence on the basis of a permit from the Authority, the issuance of which is conditional upon an application from the operator supported by documentation on nuclear safety during decommissioning. In the case of the nuclear installation being decommissioned in several steps, a permit from the Authority is required for each step [Section (4)].

e) Nuclear Safety

Nuclear safety and quality assurance are dealt with in Chapter 4 of the Act. "Nuclear safety" is defined as meaning the status and ability of a nuclear installation and its staff to prevent the uncontrolled development of a fission chain reaction or the inadmissible release of radioactive substances or ionising radiation into the workplace environment or the natural environment and to limit the consequences of accidents [Section 20(1)]. The operator is responsible for nuclear safety and must ensure that there are adequate financial and human resources to meet this responsibility [Section 20(2)].

During the building and commissioning of a nuclear installation and throughout its period of operation, the builder and operator must perform a comprehensive and systematic evaluation of nuclear safety and take steps to eliminate any deficiencies identified. The frequency and scope of the evaluations are to be set out in regulations issued by the Authority [Section 20(6)]. The operator must ensure that radiation exposure of employees and other persons to ionising radiation caused by the operation of a nuclear installation is kept below the set limits and at the lowest reasonably achievable level [Section 20(7)].

In addition to governing the safety aspects of radioactive waste management (see Section 7 of this Study, infra), Regulation No. 67/1987 Zb. stipulates the requirements for the documentation on safety which must be provided with an authorisation application for the siting, construction and operation of nuclear installations.

The Act contains detailed provisions regarding the need for training and testing of employees with professional qualifications at nuclear installations [Section 21]. The Act gives inspectors of the Authority the power to confiscate certificates of professional qualification if there are grounds for doing so [Section 34].

As an element of nuclear safety, there are provisions in Chapter 4 of the Act which deal specifically with the issue of quality assurance [Section 22]. The operator, in brief, must set up an appropriate organisational structure, procedures and sources to define and adhere to quality assurance requirements for nuclear installations and activities [Section 22(1)].

In addition to the Act, there are many decrees which regulate safety in the design, siting, construction, commissioning and operation of nuclear facilities [Regulations No. 2/1978 Zb., No. 4/1979 Zb. and No. 6/1980 Zb.], which regulate the quality assurance of classified equipment of nuclear installations [Regulation No. 436/1990 Zb.], which regulate evaluation of special professional abilities of selected personnel from nuclear installations [Regulation No. 191/1989 Zb.], which ensure nuclear safety in the course of radioactive waste management [Regulation No. 67/1987 Zb.] and, finally, which ensure safety during the testing of devices for nuclear materials transport and disposal [Regulation No. 8/1981 Zb.].

Regulation No. 9/1985 Zb. deals with the assurance of nuclear safety at nuclear research installations.

The Slovak Republic ratified the 1994 Convention Nuclear Safety on 7 March 1995 and it entered into force on 24 October 1996.

5. Trade in Nuclear Materials and Equipment

The Act expressly precludes the issuance of an authorisation to a foreign importer of nuclear installations, selected equipment or services. The receiver of such equipment and services must be the holder of an authorisation under Section 4(2) (which can only be granted to a legal person with its registered head office in the Slovak Republic or to a natural person with permanent or long term residence in the country [Section 5(1) and (2)] or the holder of a licence or permit issued in accordance with specific regulations [Section 4(4)]). In respect of the latter, Section 10 of the Act provides that a permit from the Authority is required for the import or export of nuclear materials or equipment under specific regulations. Such specific regulations include two Decrees (cited in footnote 9 to Section 10), namely the Decree of the Federal Ministry of Foreign Trade No. 50/1992 Zb., which implements Act No. 547/1990 Zb. (on the management of special substances and their control), and the Decree of the Economics Ministry No. 15/1998 Z.z. on conditions for the issuance of an official permit for the import and export of goods and services. Act No. 547/1990 Zb. specifies that the Ministry of the Economy is the authority with jurisdiction to issue export-import licences for nuclear materials and other sensitive items. The accounting and control aspects of such trade are dealt with by Decrees No. 50/1992 Zb. and 505/1992 Zb.

6. Radiation Protection

Act No. 272/1994 Z.z. on protection of human health and Act No. 290/1996 Z.z. on the safety of the health of the population lays down the requirements for radiation protection based on the International Commission for Radiological Protection (ICRP) recommendations and IAEA standards in this area. In implementation of these Acts a draft Governmental Decree on Radiation Protection is under preparation by the Ministry of Health. The Decree will replace Regulation No. 65/1972 of the Czechoslovak Ministry of Health governing the radiation protection of workers, the public and the environment against ionising radiation sources. As a matter of general principle, the main objective for

radiation protection is to keep the radiological consequences related to the use of ionising radiation as low as reasonably achievable (ALARA).

Radiation protection is also addressed in the Act, first, in the statement of general principles applicable to the peaceful use of nuclear energy [Section 3(3)] and, secondly, in relation to the safe operation of nuclear installations (see Section 4 of this Study, *supra*, in relation to *Nuclear Installations, (e) Nuclear Safety*). In respect of the latter, the operator must ensure that exposure of employees and other persons to ionising radiation caused by the operation of a nuclear installation is kept below the set limits during all operational states and activities, and at the lowest reasonably achievable level [Section 20(7)].

Generally, however, it is the Ministry of Health which is the regulatory authority responsible for radiation protection at nuclear installations, medical installations and other workplaces with ionising radiation. The supervision of workplaces is performed by the Institute for Hygiene and Epidemiology (under the Ministry of Health), managed by the Chief Hygienist, with the Nuclear Regulatory Authority also involved at nuclear installations as part of its responsibility for nuclear safety.

The Slovak Republic succeeded to the 1960 Convention concerning the Protection of Workers against Ionising Radiation on 1 January 1993.

7. Radioactive Waste Management

Under the Act, the safe disposal of radioactive waste, including the disposal of spent fuel, is the responsibility of a legal person appointed or entrusted for this purpose by the Ministry of the Economy on the terms established in the Act and by specific regulations. A radioactive waste repository may only be sited on land owned by the State [Section 17(12)]. With respect to radioactive waste management, the Authority is responsible under Sections 17 and 18 of the Act for supervising radioactive waste originating from nuclear installations and for repositories for all types of radioactive waste. The Ministry of Health is designated under Act No. 290/1996 Z.z. as the responsible authority for supervising radioactive waste originating from all other sources until their treatment and transportation for final disposal.

Regulation No. 67/1987 Zb. lays down the basic technical and organisational requirements for ensuring nuclear safety and the prevention of releases of radioactivity into the environment in the course of radioactive waste management. It also sets out mandatory radioactive waste management procedures for authorities, organisations and their staff involved in the design, commissioning, operation or decommissioning of nuclear installations, including the basic safety requirements for all steps of radioactive waste management, such as collection, segregation, storage, treatment, conditioning and finally, the disposal of radioactive waste.

Radioactive waste is defined under the Act as non-useable materials in gaseous, liquid or solid form which may not be released into the environment because of the content of radionuclides in them or because of contamination by radionuclides [Section 17(1)]. The levels of radionuclides which cause materials to be defined as waste are laid down in Decree No. 65/1972 Zb. on the radiation protection of workers, the public and the environment against ionising radiation (the Ministry of Health is now preparing a draft Governmental Decree on Radiation Protection to replace the decree from the former Czechoslovakia). "Spent nuclear fuel" means irradiated nuclear fuel withdrawn from a nuclear reactor [Section 18(1)].

The generator of radioactive waste has a general obligation to manage its generation in such a manner that its quantity and activity are kept to the lowest reasonably achievable level [Section 17(13)].

Authorisations for the management of radioactive waste and spent nuclear fuel are issued by the Authority [Section 4(2)(d)]. "Radioactive waste management" means the collection, segregation, storage, treatment, conditioning, handling, transportation and disposal of radioactive waste from nuclear installations and conditioning for transportation and disposal of institutional radioactive waste [Section 17(2)]. "Management of spent nuclear fuel" means storage, reprocessing, handling, transportation and disposal of spent nuclear fuel in a spent nuclear fuel repository [Section 18(2)]. "Storage of radioactive waste or spent nuclear fuel" means their temporary emplacement in sites, facilities or equipment that enable them to be isolated and monitored and the environment to be protected [Section 2(b)]. "Disposal of radioactive waste or spent nuclear fuel" means their permanent emplacement in a radioactive waste or spent nuclear fuel repository [Section 2(c)].

The generator of radioactive waste is responsible for the safe management of the waste from its first occurrence until it is transferred to a radioactive waste repository, unless the Authority specifies otherwise [Section 17(6)]. Similarly, the producer of spent nuclear fuel is responsible for its management until its transfer to a spent nuclear fuel repository [Section 18(3)]. A "radioactive waste or spent nuclear fuel repository" means a site, facility or equipment on the surface or underground used for disposal of radioactive waste or spent nuclear fuel, which enable them to be isolated and monitored and the natural environment to be protected [Section 2(d)].

The provisions applying to the management of radioactive waste apply also to the management of spent nuclear fuel [Section 18(4)].

The costs associated with the management of radioactive waste and spent nuclear fuel, including monitoring of repositories after they have been sealed and the relevant research and development, are to be reimbursed by the originator of the waste [Section 17(8)]. Where the generator is not known or is not capable of managing the waste, the Authority is required to appoint someone with a radioactive waste management authorisation. In its decision the Authority must define the scope of management and the method of reimbursement of costs [Section 17(9)]. The costs of management where the generator is not known are to be reimbursed by the State Fund for Decommissioning of Nuclear Power Plants and Management of Spent Nuclear Fuel and Radioactive Waste. A generator who is subsequently identified must reimburse the costs arising from the management to the Fund [Section 17(10)].

The Fund is regulated under Act No. 254/1994 Z.z. on the State Fund for Decommissioning Nuclear Power Plants and Management of Spent Nuclear Fuel and Radioactive Waste [see also Regulation No. 14/1995 Z.z.]. For details of the management of the Fund, see Section 4 of this Study, *supra*, in relation to *Nuclear Installations, (d) Decommissioning*. The Fund is financed by several means, including contributions by nuclear power plant operators, bank and State funding and other sources.

Importation of radioactive waste into the Slovak Republic is prohibited, except for the return of radioactive waste which arose during reprocessing and conditioning of radioactive materials exported for this purpose, provided the re-importation of this waste has received a permit in advance from the Authority [Section 17(14)].

The Slovak Republic signed the 1997 Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management on 30 September 1997.

8. Non-Proliferation and Physical Protection

The Slovak Republic succeeded to the 1968 Treaty on the Non-Proliferation of Nuclear Weapons on 1 January 1993 and to the 1979 Convention on the Physical Protection of Nuclear Material on 10 February 1993. The Authority is the official contact point for international bodies dealing with non-proliferation regimes such as the Nuclear Suppliers Group or the Zangger Committee.

On 1 January 1993 the Slovak Republic succeeded to the Safeguards Agreement with the IAEA, which had entered into force between the IAEA and Czechoslovakia on 3 March 1972 (INFCIRC/173).

For details of the system of accountancy and monitoring of nuclear materials, see *supra*, Section 3 of this Study, in relation to *Nuclear Materials and Equipment*.

Physical protection of nuclear installations and nuclear materials is dealt with in Section 23 of the Act. "Physical protection" means a system of technical and organisational measures, the aim of which is to prevent unauthorised activities with nuclear installations or nuclear materials, especially their misuse or intentional damage [Section 23(1)]. It is the operator who is responsible for the physical protection of a nuclear installation [Section 23(2)].

A consignor or carrier when nuclear materials are being transported, and legal or natural persons who use nuclear materials, are responsible for the provision of physical protection of the nuclear materials during these activities [Section 23(4)].

In cases of unauthorised access to a nuclear installation or unauthorised handling of nuclear materials, assistance shall be rendered within the limits of their competence by the Police and the Railway Police at the request of the builder, operator, carrier or consignor or user of the nuclear materials [Section 23(6)]. When unauthorised actions have been perpetrated with nuclear installations or nuclear materials, or there is a threat of such actions, the operator, consignor or user of the nuclear materials is required to take the necessary measures and notify the relevant department of the Police and the Authority without delay [Section 23(7)].

The provisions of Section 23 also apply to the physical protection of radioactive waste during its management [Section 17(15)].

In addition to the detailed provisions in the Act, there is Regulation No. 100/1989 Zb. on the physical protection of nuclear installations and nuclear materials. Unlike the provisions in the Act which deal with physical protection, the Regulation expressly excludes the transport of nuclear materials from its scope [Article 1(2) of the Regulation].

9. Transport

Nuclear materials may only be transported on the basis of a transportation permit issued by the Authority to the consignor or carrier [Section 11(1)]. Transportation of nuclear material may only be carried out in transport equipment of types approved by the Authority [Section 11(2)]. Each

transportation of nuclear material requires a separate permit, although for transportation of nuclear material of the same type by the same carrier, a permit may be issued for a longer period of time, but for no longer than one year [Section 11(3)]. The same provisions in the Act apply to the transportation of radioactive waste [Section 17(16)] and spent nuclear fuel [Section 18(4)].

For the obligations of the consignor or carrier when nuclear materials are being transported, see Section 8 of this Study, *supra*, in relation to *Non-Proliferation and Physical Protection*. Legal and natural persons who take part in the transportation of nuclear materials must observe the physical protection requirements set by the consignor [Section 23(5)].

There are specific provisions in the Act dealing with accidents during transportation of nuclear material, radioactive waste or spent nuclear fuel. Thus, a transport accident is defined as meaning an exceptional event which caused harm to health, gave rise to a threat to the health of persons due to the impact of ionising radiation, or caused damage to property as a result of a release of radioactive substances into the natural environment [Section 24(3)]. The consignor must notify the Authority, the Ministry of the Interior and the Ministry of Transport, Post and Telecommunications of the transport accident, and must also inform the public [Section 24(5)].

As part of the emergency planning requirements under the Act, the carrier is required to draw up emergency transport procedures on the basis of obligatory principles from the consignor [Section 25(7)]. These emergency transport procedures must be submitted by the carrier for consideration by the Authority and the public service bodies affected two months prior to the transportation taking place [Section 25(11)]. The emergency transport procedures are to be approved by the Ministry of Transport, Post and Telecommunications [Section 25(12)(c)]. Nuclear materials and radioactive waste may not be transported without approved emergency transport procedures [Section 25(14)].

10. Nuclear Third Party Liability

Compensation for nuclear damage is covered by general regulations on liability for damage e.g. Sections 415 to 450 of the Civil Code [Act No. 40/1984 Zb., as amended], except as otherwise stipulated in the Act or an international agreement to which the Slovak Republic is bound [Section 26(2)]. In fact, the Act contains very detailed provisions on third party liability for nuclear damage, which largely reflect the provisions of the 1963 Vienna Convention on Civil Liability for Nuclear Damage. The Slovak Republic acceded to the Vienna Convention and the 1988 Joint Protocol on the Application of the Vienna Convention and the Paris Convention on 7 March 1995. Both the Vienna Convention and the Joint Protocol entered into force for the country on 7 June 1995.

Section 26(1) of the Act defines “nuclear damage” as detriment to property, loss of life or harm to health caused by an “emergency situation” (as defined in Section 24(2)(c)) or by a “transport accident” (as defined by Section 24(3)). It is also damage that has arisen through the expenditure of costs on measures necessary to avert or reduce irradiation or to restore the natural environment to its previous or an equivalent state, should such measures have been instigated as a result of a nuclear incident [Section 26(3)]. If damage was caused jointly by a nuclear incident and another event not dependent on the nuclear incident, the nuclear damage shall be that part of the damage which was not demonstrably caused by the other event. The operator has the burden of proving the scope of the damage which cannot be categorised as nuclear damage [Section 26(4)].

Liability for nuclear damage caused by a nuclear incident is channelled to the operator [Section 27(1)]. Liability for nuclear damage caused during the transportation of nuclear materials or radioactive waste rests with the carrier who applied for recognition as operator of a nuclear installation and, with the consent of the operator concerned, was recognised by the Authority as the operator [Section 27(2)]. If an operator operates a number of installations located on a territory for which a common internal emergency plan has been approved, they will be taken as a single nuclear installation for the purposes of liability for nuclear damage. More than one nuclear installation on one site, where the operators are different holders of authorisations, may not, however, be taken as a single installation, even if these installations are technically linked together [Section 27(3)].

The operator's limit of liability under the Act for nuclear damage is 2 billion Slovak crowns [Section 28(1)], which does not include interest or costs [Section 28(2)].

Under the Vienna Convention, which has force of law in the Slovak Republic [Section 26(2)], liability for nuclear damage is strict. In meeting claims for compensation for nuclear damage, an operator must meet them as follows:

Group I: Justified claims made within 12 months of the occurrence of the nuclear incident shall be met within 60 days of the date the claim was made. Seventy per cent of the limit of liability specified in Section 28 of the Act may be used to meet claims for compensation for damage which fall within this group. If the damage compensation claims exceed the sum that may be utilised for this Group, compensation claims for damage to health and compensation for cases of death shall be met in full and other claims proportionately.

Group II: Other claims made between 12 and 36 months after the occurrence of a nuclear incident shall be met within 60 days of the claim, and include claims which were met proportionately in Group I.

Group III: When a period of 36 months has elapsed since the occurrence of a nuclear incident, individual claims for compensation for nuclear damage are to be met within 90 days of the claim, but only until the sum specified in Section 28 is exhausted. These include claims which were met proportionately in Groups I and II.

The operator must ensure that the liability for nuclear damage is covered by insurance or some other form of financial cover [Section 30(1)], which must be in place for the duration of operation of the nuclear installation and at least ten years after a nuclear incident [Section 30(2)]. There is an exemption from nuclear damage liability cover for nuclear incidents caused by small amounts of nuclear materials which are assumed not to be capable of giving rise to nuclear damage [Section 30(3)].

II. INSTITUTIONAL FRAMEWORK

1. Regulatory and Supervisory Authorities

a) Nuclear Regulatory Authority

The Nuclear Regulatory Authority (*Úrad Jadrového Dozoru – ÚJD*) of the Slovak Republic is the successor to the former Czechoslovak Atomic Energy Commission. It was established on

1 January 1993 and its powers are based on Act No. 2/1993 Z.z.. The Authority acts as an independent State regulatory body which reports directly to the Government and is directed by a Chairperson appointed by the Government.

Besides the Chairperson, the Authority comprises a small Secretariat and two Departments, one for assessment and inspection activities and one for safety policy assessment and international co-operation. The Inspection Activities Department is headed by the Chief Inspector and based at Trnava, near the Bohunice nuclear power plant, while the Safety Policy and International Co-operation Department is headed by the Vice Chairman and is located at the Bratislava headquarters.

The Authority is responsible for regulation and supervision of the use of nuclear energy. The Authority is also responsible for supervising radioactive waste originating from nuclear installations and for repositories for all types of radioactive waste.

The regulatory powers of the Authority cover the following areas:

- the safety of nuclear installations;
- radioactive waste management;
- safeguards and control over nuclear and dual-use materials;
- quality assurance programmes;
- international agreements and obligations in the field of nuclear safety and nuclear materials.

Details of the tasks of the Authority relating to each of these areas are set out in Chapter 6 of the Act. Of particular importance is the inspection function of the Authority (see Section 4(b) of this Study, *supra*, in relation to *Nuclear Installations, Inspection*).

b) Ministry of Health

The Regional Radiation Protection Body under the Ministry is responsible for radiation protection and for the control of radiation protection measures inside nuclear installations and off-site [Act No. 272/1994 Z.z.]. It is also designated as the responsible authority for supervising radioactive wastes from non-nuclear installations until their treatment and transportation for final disposal. The Institute for Hygiene and Epidemiology is responsible for providing technical support in the regulation and supervision of radiation protection.

c) Ministry of the Environment

It has control over regional offices which grant site, construction and operating licences and operate the environmental radiation monitoring network, is responsible for environmental impact assessments. The Minister for the Environment also chairs the Government Commission for Radiological Emergencies.

d) Ministry of the Interior

The Ministry is responsible for fire protection, for support of physical protection of nuclear materials and nuclear installations in emergency situations, civil defence during radiological accidents and for assistance in case of a nuclear accident or radiological emergency [Act No. 42/1994 Z.z. on Civil Protection]. In the event of incidents or accidents, the Ministry must be informed by the operator [Section 24(4)].

e) Ministry of Economy

The Ministry is responsible for promoting and developing a nuclear power programme and for preparing related legislation. It issues export and import licences for nuclear materials and sensitive equipment.

Under the Act the Ministry appoints the legal person responsible for the safe disposal of radioactive waste [Section 17(12)].

f) State Office for Occupational Safety

The responsibilities of the Office are set out in Act No. 174/1968 Zb. on State supervision of work safety as amended by Act No. 256/1994 Z.z.. The Office is an independent agency which reports directly to the Government on matters of industrial safety.

2. Public and Semi-Public Agencies

a) Nuclear Power Plant Research Institute

The Nuclear Power Plant Research Institute (*Vyskumny Ustav Jadrovych Elektrarni Trnava a.s. – VUJE*) undertakes research and development in the field of nuclear safety. The Institute also conducts training for the employees of the nuclear power plants at Trnava.

The final training of operating personnel at the Mochovce plant is also carried out with a full-scale simulator which is located on-site.