

*Overview
of Nuclear Legislation in
Central and Eastern Europe
and the NIS*

October 1996

FOREWORD

The purpose of this Study is to provide 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 publication in October 1995, this new issue focuses on the institutional and legal frameworks which have been established in the countries concerned, thanks to contributions made by their national correspondents. We wish to express our deep appreciation to all of our contacts in Eastern Europe, whose invaluable assistance helped make this new Study possible.

The Study follows a standard format to facilitate comparison among the various countries. While certain legislative texts have already been cited in the NEA's Nuclear Law Bulletin, we thought that it would nevertheless be helpful to make brief references to such texts once again in the current Study.

LEGAL NOTICE

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ARMENIA

Introduction

Armenia has one nuclear power station at Medzamor, which consists of two reactors having a capacity of 815 Mwe. Only one of these two reactors is currently in operation, having been returned to service on 25 October 1995 after a six year shut-down, following an earthquake in 1989.

Competent Nuclear Authorities

In November 1993, the Armenian Government established a department to monitor nuclear and radiation safety, called the Armenian Nuclear Regulatory Authority (ANRA). This authority is responsible for organising and regulating the means for monitoring and supervising all uses of nuclear energy within Armenia. Utilisation of atomic energy must be done safely so as to ensure the health of the public, of personnel working at nuclear power stations and to protect the environment.

The Authority is comprised of experts who have worked in nuclear power stations and in the nuclear energy field in general.

The Minister of Energy is deemed to be the operator of nuclear power plants situated within Armenia and it is he who is charged with responsibility for nuclear accidents.

Legislation in Force

The Armenian Parliament ratified the Vienna Convention pursuant to Decision No. 317 of 22 June 1993. However, there is no domestic legislation which effectively implements the provisions of that Convention at the national level. Nevertheless, Article 6 of the Armenian Constitution provides for the supremacy of international treaties ratified by the Armenian Republic over the domestic laws of the country.

Draft Legislation

There is a draft law on "Responsibility for Violating the Peaceful Use of Nuclear Energy" which is currently under consideration by the Armenian Parliament. In the framework of international co-operation, the Ministry of Energy and the ANRA are also preparing draft legislation on peaceful uses of nuclear energy.

International Agreements

- **Civil Liability for Nuclear Damage**

Armenia acceded to the Vienna Convention on Civil Liability for Nuclear Damage on 24 August 1993, but it has not acceded to the Joint Protocol relating to the Application of the Vienna Convention and the Paris Convention.

- **Other Conventions**

The 1968 Nuclear Non-Proliferation Treaty, acceded to on 15 July 1993;

The Convention on the Physical Protection of Nuclear Materials, acceded to on 24 August 1993;

The 1986 Convention on the Early Notification of a Nuclear Accident, acceded to on 24 August 1993;

The 1986 Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, acceded to on 24 August 1993;

BELARUS

Introduction

There are no nuclear power plants in Belarus at present. However, the Government is studying the possibility of establishing such a facility and work has begun on locating an acceptable site and on implementing an appropriate legal structure.

Competent Nuclear Authorities

General policy in the field of nuclear and radiological safety is set by the Presidential Security Council and the Cabinet of Ministers.

Under the authority of the Council of Ministers, three entities have jurisdiction in the nuclear field: the Ministry for Emergency Situations, the Ministry of Health and the Academy of Sciences.

The Ministry for Emergency Situations is responsible for dealing with the consequences of the Chernobyl disaster and for ensuring the protection of the public in this regard. Two committees within this Ministry have specific responsibilities: The Committee for Supervision of Industrial and Nuclear Safety (Promatomnadzor) and the Committee for Hydrometeorology. The former is responsible for developing the legislative, regulatory and technical framework for the use of atomic energy. It acts as a regulatory body, carrying out the assessment and verification of safety, the delivery of licences, and the inspection of all activities involving ionising radiation sources and nuclear power plants. Inspections are carried out by personnel of the Committee's Nuclear and Radiation Safety Inspectorate. The Committee for Hydrometeorology is responsible for monitoring environmental radiation. It is responsible also for the production of maps of areas contaminated by radionuclides.

The Ministry of Health is responsible for ensuring radiation safety in medicine, industry and research. It is also responsible for radiation protection of the public, including selective radiation control of food stuffs in contaminated areas.

Finally, the Academy of Sciences performs research in the nuclear field and provides consulting services to the Government.

Legislation in Force

Pending the establishment of a new legal regime, the Government has extended the validity of a large number of regulations made during the existence of the former Soviet Union. Some of these regulations have been revised to take into account new Russian regulations and standards as well as certain IAEA standards.

Draft Legislation and Regulations

A Bill on radiation safety and activities related to the use of atomic energy is currently being drafted. The Bill sets out the principles for regulating the peaceful uses of nuclear energy and provides for the adoption of subsidiary legislation, such as regulations and rules, in order to meet concrete objectives. The Bill also makes reference to international agreements to which Belarus is a Party and stipulates that the provisions contained in such agreements shall take precedence over national legislation falling outside the scope of the present Bill.

Belarus has modelled its legislation on the laws of neighbouring countries; the Bill therefore aims to deal with three main issues:

- to guaranty the safe operation of nuclear installations and the safe treatment of nuclear materials, as well as to prevent nuclear accidents likely to harm the public, the environment or the health of workers on the site of nuclear installations;
- to guaranty equitable compensation for nuclear damage;
- to satisfy international obligations in the atomic energy field; to this effect, the Bill contains fundamental provisions based on the applicable International Conventions (NPT, physical protection, etc.).

This Bill will be supplemented by another Bill concerning radiation protection for the general population. Other draft legislation is being prepared to cover the following: radioactive waste management, nuclear third party liability, and financial security for nuclear hazards.

International Conventions

Belarus is a Party to the following Conventions:

- Convention on Early Notification of a Nuclear Accident, ratified on 26 January 1987;
- Convention on Assistance in Case of a Nuclear Accident or Radiological Emergency, ratified on 26 January 1987;
- Treaty on the Non-Proliferation of Nuclear Weapons, acceded to on 22 July 1993;
- Convention on the Physical Protection of Nuclear Material, acceded to on 9 September 1993.

BULGARIA

Introduction

In Bulgaria, there are at present six operational units at the Kozloduy nuclear power plant, with a total capacity of 3 538 MWe. Four reactors are VVER-440s, model V230, and two are VVR-1 000.

Competent Nuclear Authorities

The State Committee on the Use of Atomic Energy for Peaceful Purposes (CUAEPP), set up by the Act of 7 October 1985, is the agency with jurisdiction over nuclear matters, including the implementation of national policy. It is made up of Ministerial representatives together with those from other administrations involved in the safe use of nuclear energy, and it is placed under the control of the Council of Ministers.

CUAEPP, led by a Chairman, comprises an Executive Secretary, administrative services responsible for external relations and relations with the public, Advisory Councils and an Inspectorate for the Safe Use of Atomic Energy.

The Advisory Councils were set up to provide assistance and scientific advice, either upon the request of the Chairman of the CUAEPP, or upon its own initiative.

The Inspectorate for the Safe Use of Atomic Energy (ISUAE) has, by reason of its composition, a dual role: the safety of nuclear power plants and the safety of ionising radiation sources. It is comprised of:

- the Department for the Safety of Nuclear Facilities which itself has two Divisions: the Division for Safety Evaluation and Analysis, and the Division for the Safe Operation of Nuclear Facilities. The Department for the Safety of Nuclear Facilities ensures that nuclear safety requirements are met and places its inspectors on nuclear sites (six inspectors at Kozloduy);
- the Department for the Safety of Ionising Radiation is divided into four groups: Technogenic Sources, Natural Radioactive Materials, Measurements and Analysis, and Registration of Movements of Ionising Radiation Sources.

The ISUAE ensures that the limits and conditions for the safe use of atomic energy are followed and that the decisions and technical regulations are respected. In this way the Inspectorate is in a position to take all immediate measures necessary to ensure nuclear safety. The Inspectorate also keeps a record of all sources of ionising radiation and all licences for the use, storage, transport, installation, decommissioning and disposal of nuclear materials.

In addition, the National Radiobiology Centre, created by Regulation of 18 June 1993 (Official Gazette No. 52) operates as a specialised body under the Ministry of Health, and has jurisdiction over radiobiological issues, radiation protection and medical emergencies.

The Radiobiology Centre supervises the Health and Epidemiology Centre as regards regular radiation monitoring and medical controls of exposed workers. The Centre also deals with preventive measures, diagnostics, and scientific and technical activities in those fields.

Legislation in Force

The Act of 7 October 1985 (revised in 1995) on the Use of Atomic Energy for Peaceful Purposes (Atomic Energy Act) governs all nuclear activities in Bulgaria.

The Atomic Energy Act contains five chapters: the first addresses the main principles for the peaceful uses of atomic energy; the second deals with the management of uses of atomic energy; the third establishes State controls; the fourth addresses the question of nuclear third party liability and finally, the fifth chapter is devoted to administrative provisions and penalties.

The Act defines the objectives of the Committee on the Use of Atomic Energy for Peaceful Purposes:

- to establish programmes for the long-term use of nuclear energy, nuclear safety rules, accounting systems, and requirements for the storage and transport of nuclear materials;
- to implement Bulgaria's economic, scientific and technical co-operation with international organisations in the nuclear field.

All nuclear activities require licence. The conditions and procedures for licences are set forth in the Atomic Energy Act and its implementing regulations. The latter cover the following aspects:

- procedures for notifying the Committee of any modifications, occurrences or accidents during operation which have a bearing on nuclear and radiation safety (1987 Regulation);
- safety of nuclear power plants during design, construction and operation (1987 Regulation);
- accounting, storage, and transport of radioactive waste (1988 Regulation);
- authorisation for the uses of nuclear energy;
- criteria and requirements for training and qualification of personnel in order to maintain and improve their level of knowledge and experience;
- collection, treatment and final disposal of radioactive waste (1992 Regulation).

The provisions of the Act on nuclear third party liability apply to nuclear incidents and damage occurring on Bulgarian territory.

Regulation No.7 of 1992 of the Committee on the Use of Atomic Energy for Peaceful Purposes concerns the collection, treatment and disposal of radioactive waste in the territory of Bulgaria. However, the Regulation does not apply to spent nuclear fuel and to the waste resulting from its treatment. The Regulation prohibits the import and transport of radioactive waste which is not produced in Bulgaria as well as the discharge of all types of radioactive waste into industrial and municipal sewage systems.

Regulation No.5 of 1988 concerning licences for the use of atomic energy sets forth the documentation, procedure and conditions required to obtain such licences, which are issued by the Inspectorate on the Safe Use of Atomic Energy.

This Regulation also contains provisions for the decommissioning of nuclear installations and other facilities using ionising radiation sources. A licence is necessary for the decommissioning of a nuclear facility and the documents to be submitted in order to obtain such a licence are also set out in the Regulation.

A Regulation on the physical protection of nuclear installations and materials was adopted in August 1993. The Regulation lays down both institutional and technical requirements for the physical protection of nuclear

materials in use, during transport and in storage. It takes into account the IAEA Recommendations on the Physical Protection of Nuclear Materials.

The 1985 Atomic Energy Act was revised recently. The Amending Act, adopted by the National Assembly on 27 July 1995, was published in Official Gazette No. 69 of 4 August 1995.

The main provisions of the Amending Act are the following:

- third party liability for nuclear damage—the Act's provisions are brought into line with the those of the Vienna Convention;
- funds are established for decommissioning nuclear facilities and for the safe storage of radioactive waste;
- plans are to be made for special status zones around nuclear facilities and national radioactive waste storage sites;
- a clear separation is established between the functions of the national regulatory body and those of organisations using nuclear energy; and
- two advisory bodies are created within the Committee on the Use of Atomic Energy for Peaceful Purposes; the Council on the Safety of Nuclear Facilities and the Council on Radiation Protection.

Furthermore, by the Act of 27 July 1994, promulgated by Decree No. 173 of 2 August 1994, Parliament authorised the accession of Bulgaria to the 1963 Vienna Convention on Third Party Liability for Nuclear Damage and to the Joint Protocol relating to the application of the Vienna Convention and the Paris Convention.

According to the Act, the liability of an operator of a nuclear installation in Bulgaria is limited to the equivalent of 15 million Special Drawing Rights (this is also specified in the Amending Act). The 1994 Act specifies that the Vienna Convention will be applicable to Bulgaria as from the date of the deposit of its instrument of accession.

Draft Legislation and Regulations

In order to harmonise the Bulgarian legislation with European Union regulations, Bulgarian Experts are currently analysing EU directives in the field of atomic energy use and are drafting a series of relevant Acts.

International Conventions

• Nuclear Third Party Liability

- Bulgaria is a Party to the Vienna Convention (accession, 24 August 1994).
- Bulgaria is a Party to the Joint Protocol (accession, 24 August 1994).

• Other Conventions

- 1968 Treaty on the Non-Proliferation of Nuclear Weapons, ratified on 5 September 1969;
- 1980 Convention on the Physical Protection of Nuclear Material, ratified on 10 April 1984;
- 1986 Convention on Early Notification of a Nuclear Accident, ratified on 24 February 1988;

- 1986 Convention on Assistance in Case of a Nuclear Accident or Radiological Emergency, ratified on 24 February 1988;
- 1994 Convention on Nuclear Safety, ratified on 8 November 1995.

CROATIA

Introduction

Croatia has no nuclear power programme at present. However, the national electricity company (HEP) is a co-owner of the nuclear power plant situated at Krsko in Slovenia. HEP receives and distributes 50 per cent of the electricity produced by that plant but has no direct responsibility for or jurisdiction over its operation.

Competent Nuclear Authorities

There is currently no formal regulatory body in the nuclear field in Croatia. In the former Yugoslavia, responsibility for radiation protection and nuclear safety lay with the Federal Ministry of Energy and Industry. At present, the Ministry of Economy is the authority with jurisdiction over nuclear safety. It has a special Department responsible for Nuclear Safety. Radiation protection falls within the mandate of the Ministry of Public Health.

However, Croatia intends to set up a regulatory body responsible for nuclear activities. The current Bill, which revises the Act of 21 November 1984 on Radiation Protection and on Special Safety Measures in the Safe Use of Nuclear Energy, contains provisions for the creation of this regulatory body. The Croatian authorities also intend to:

- establish an agency responsible for monitoring radioactive waste and establish regulations in that field;
- establish regulations on emergency preparedness in the context of the operation of the Krsko nuclear power plant;
- assess and identify sites for setting up and operating future nuclear power plants.

Legislation in Force

Although Croatia has no nuclear power plant, it does have legislation on nuclear safety which it inherited from the former Yugoslavia, namely the Act of 21 November 1984 on Radiation Protection and on Special Safety Measures in the Safe Use of Nuclear Energy. This Act entered into force as a Croatian law by Parliamentary decision of 8 October 1991. The Act establishes general provisions for radiation protection and other special safety measures applicable to nuclear installations and materials (Off. Gaz. 53/91).

Draft Legislation and Regulations

The Croatian authorities consider the above Act obsolete. It is therefore currently being revised and the amended version is expected to be finalised by the end of 1996.

International Conventions

- **Nuclear Third Party Liability**

- The Republic of Croatia is a Party to the Vienna Convention (succession, 29 September 1992).
- The Republic of Croatia is a Party to the Joint Protocol (accession, 10 May 1994).

- **Other Conventions**

- Convention on Early Notification of a Nuclear Accident, succeeded to on 29 September 1992;
- Convention on Assistance in case of a Nuclear Accident or Radiological Emergency, succeeded to on 29 September 1992;
- Treaty on the Non-Proliferation of Nuclear Weapons, succeeded to on 29 September 1992;
- Convention on the Physical Protection of Nuclear Material, succeeded to on 29 September 1992;
- Convention on Nuclear Safety, approved on 18 April 1996.

CZECH REPUBLIC

Introduction

The nuclear power plant at Dukovany, Czech Republic, has four operational units with a total installed capacity of 1,760 MWe. Two additional units, each with an installed capacity of 1,000 MWe, are under construction at Temelin.

Competent Nuclear Authorities

In the Czech Republic, the construction and operation of nuclear power plants and nuclear installations in general, as well as waste management and the decommissioning of nuclear installations, fall under the responsibility of the Ministry of Industry and Trade, which has jurisdiction to:

- develop domestic legislation and prepare intergovernmental treaties in the nuclear field;
- propose strategic reserves of nuclear materials;
- co-operate with other government agencies in developing emergency preparedness plans and environmental protection principles;
- co-ordinate activities in the nuclear field from the viewpoint of the Government's economic policy;
- develop the principles of government policy in the nuclear area, including the management of radioactive waste and spent nuclear fuel;
- monitor the Dukovany NPP operation and Temelin NPP construction.

The State Office for Nuclear Safety (SONS) was set up by Act No. 21/1992 of 12 December 1992. Following the dissolution of Czechoslovakia, the Czech Republic transferred the responsibilities of the former Czechoslovak Atomic Energy Commission to SONS (Act No. 4/1993).

Act No. 287 of 11 November 1993 determines the competence of SONS, which exercises State supervision over:

- the safety of nuclear installations and the management of radioactive waste and spent fuels;
- nuclear materials, including record-keeping and inspections;
- physical protection of nuclear materials and installations;
- emergency preparedness.

SONS is also responsible for co-ordinating co-operation with the IAEA.

On 19 April 1995, the Czech Parliament extended the responsibilities of SONS (Act No. 85/1995) to include supervising radiation protection, previously the responsibility of the Ministry of Health.

The State Office for Nuclear Safety is made up of seven technical departments responsible for

- systems and equipment;
- nuclear safety;
- the monitoring and surveillance of nuclear materials (including two local agencies at Dukovany and Temelin);
- radiation sources;
- radiation protection in the nuclear power plants;
- the control of natural radiation;
- emergency preparedness plans.

In addition, there exists a unit for the treatment of the radiation effects upon health and six regional centres, situated in Czech localities, where radiation protection activities are carried out.

The State Office for Nuclear Safety is also responsible for the co-ordination of a radiation monitoring network throughout the territory of the Czech Republic.

Legislation in Force

Act No. 28/1984 (Act of 22 March 1984) on State supervision of the safety of nuclear installations of the former Czechoslovakia remains applicable in the Czech Republic, pending the adoption of a new Act. Other laws remain applicable and cover all activities in the nuclear field.

Under this Act, an application to construct and operate a nuclear installation must be submitted to the State Office for Nuclear Safety. After consideration of the documentation provided, in particular that on nuclear safety, SONS may grant its consent and establish licensing conditions. The decision by SONS must be issued not later than two months after the applicant organisation has submitted the relevant documentation.

Inspections of nuclear installations are carried out by SONS to ensure compliance with technical specifications for nuclear safety, operational instructions and conditions, and radiation protection measures.

Act No. 238/1991 on radioactive waste management defines responsibilities and penalties in this area. It refers to two regulations of the former Czechoslovak Atomic Energy Commission, No. 67/1987 on nuclear safety in the management of radioactive waste, and No. 59/1972 relative to health protection against ionising radiation.

The construction of nuclear installations is also governed by the construction code (Act No.50/1976) and the establishment of each nuclear installation must undergo the procedure set out in the Environmental Impact Assessment Code (Act No.244/1992).

Although there is as yet no specific legislation on nuclear third party liability, this matter is, for the time being, addressed in the Civil Code (Part VI, Chapter II of Act No. 40/1964) and in the Commercial Code (Act No. 513/1991), as well as by the application of the Vienna Convention.

The Civil Code covers liability for damage to human health, including death, and to property. The operator is liable for damage due to the dangerous character of a particular operation; this includes the operation of a nuclear power plant and the transport of nuclear substances. It is also liable, regardless of fault, for damage due to the hazardous nature of the operation. Otherwise, it will be relieved of liability if it can be proved that the damage could not have been prevented in spite of all possible care.

There are still no provisions in the Civil Code limiting the amount of operator's liability or obliging it to hold insurance or other financial security to cover its liability, nor does it contain provisions for State intervention to compensate damage.

Under Czech Government Resolution No. 534, the Minister for Industry and Trade is empowered to sign, on behalf of the Government, a temporary State guarantee for nuclear operators, which guarantees coverage for compensation of potential victims of nuclear incidents up to the overall sum of CZK 6 billion (approximately 150 million Special Drawing Rights). This guarantee is established pursuant to the law relating to the State budget and remains valid until new legislation enters into force.

Finally, by virtue of Government Resolution No. 415 of 12 July 1995, the Ministry of Industry and Trade may, on behalf of the Government, sign indemnification agreements in favour of foreign suppliers of equipment and services for nuclear installations in Czech territory. These agreements remain valid until the entry into force of the new legislation on the use of nuclear energy and ionising radiation.

Draft Legislation and Regulations

A Bill on the use of nuclear energy and ionising radiation was finalised in December 1995 and approved by the Government on 3 January 1996. It is anticipated that the Bill will be adopted in 1997.

This is a general law, drafted in the form of principles. It establishes the conditions for the use of nuclear energy and ionising radiation and for protection of the public and the environment against the harmful effects of ionising radiation. It includes provisions (Section VII) on nuclear third party liability, supplementary to the provisions of the Vienna Convention and establishes a new governmental body to implement the State guarantee for safe disposal of radioactive waste and spent nuclear fuel.

International Conventions

- **Nuclear Third Party Liability**
 - Czech Republic acceded to the Vienna Convention on 24 March 1994.
 - Czech Republic acceded to the Joint Protocol on 24 March 1994.

- **Other Conventions**

- Treaty on the Non-Proliferation of Nuclear Weapons, succeeded to on 1 January 1993;
- Convention on Early Notification of a Nuclear Accident, succeeded to 24 March 1993;
- Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, succeeded to on 24 March 1993;
- Convention on the Physical Protection of Nuclear Material, succeeded to on 24 March 1993;
- Convention on Nuclear Safety approved on 18 September 1995.

ESTONIA

Introduction

There are no nuclear power plants in Estonia. There are, however, two decommissioned reactors and nuclear waste depositories at Paldiski (the former Soviet Naval training centre). These installations remained under Russian ownership and control until 26 September 1995, at which time the ownership of and the responsibility for the centre, as well as Russia's remaining obligations with respect thereto, were transferred to Estonia.

Competent Nuclear Authorities

The Government has granted jurisdiction over nuclear energy activities to various Ministries while retaining jurisdiction over defence matters. It has also established conditions and rules for the licensing required in connection with activities related to ionising radiation (safety, radiation levels, etc).

The Ministry of the Environment and the Ministry of Social Affairs are the two bodies with primary jurisdiction over nuclear and radiological issues. However, the governmental body with primary responsibility for radiation protection and which has inspection and control rights is the Radiation Centre. This Centre is actually a department of the Ministry of the Environment. It monitors the follow-up of official documents issued by the Government and supervises all radiological activities (issuance of licences, control of surrounding radiation levels, etc.).

Finally, by Order of 10 May 1995, the Government of Estonia allocated the necessary resources to form a state-owned company, ALARA Ltd. This company is the new operator of the Paldiski facilities and is also responsible for radioactive waste management in Estonia.

Legislation in Force

There is no specific legislation regulating nuclear safety or radiation protection in Estonia. However, certain provisions contained in other legal instruments address those questions indirectly. For example:

- Article 123 of the Constitution of Estonia provides that international treaties ratified by Parliament (*State Assembly - Riigikogu*) will supersede domestic legislation or other texts which conflict with such treaties;
- Article 53 of the Constitution provides for the obligation to protect mankind and the natural environment and for the possibility of being compensated in case of damage;
- Sections 26, 41 and 42 of the Act on the General Principles of the Civil Code entitle all persons to claim compensation for moral or material injury resulting from violation of their rights—the person responsible therefor is exclusively liable for such compensation;
- Sections 48 and 52 of The Act on the Protection of Nature deal with the same rights and obligations as regards compensation in the context of environmental damage.

Lastly, the Act on Export and Transit of Strategic Goods, which entered into force on 28 April 1994, makes licences for the export or transit of such so-called goods mandatory. Nuclear technology, related materials and facilities, nuclear waste and uranium ores are included in that category. Licences are issued by an Interdepartmental Commission set up for this purpose.

Draft Legislation and Regulations

A draft Bill regulating the use of radiation and other matters involving radiation protection is now being presented to Parliament.

This Bill defines the institutional framework for, and establishes the rules applicable to, the use of ionising radiation, the detention of radiation sources, the transport of radioactive materials, radioactive waste disposal and other activities which cause or may cause harm to health or to the environment. It should be noted, however, that this Bill deals solely with radiation protection; all other nuclear activities are to be covered by a specific law.

The Bill provides for a system of licensing covering all activities using ionising radiation. The Government plans to draw up a list of conditions which must be satisfied in order to obtain a licence (safety requirements, levels of radiation emitted, etc.), and licences will be issued by the Radiation Centre under the control of the Ministry of the Environment.

The Bill defines the owner of the licence for the ionising radiation activity or the employee using a radiation source within the scope of his work as the party liable. Such person must guarantee radiation safety and must be able to repair any damage caused.

The Bill also contains provisions regarding the maximum level of radiation to which an employee in contact with ionising radiation sources can be exposed, as well as provisions concerning a minimum age limit.

International Conventions

- **Nuclear Third Party Liability**

- Estonia acceded to the Vienna Convention on 9 May 1994.
- Estonia acceded to the Joint Protocol on 9 May 1994.

- **Other Conventions**

- Treaty on the Non-Proliferation of Nuclear Weapons, acceded to on 7 January 1992;
- Convention on the Physical Protection of Nuclear Material, acceded to on 9 May 1994;
- Convention on Early Notification of a Nuclear Accident, acceded to on 9 May 1994;
- Convention on Assistance in Case of a Nuclear Accident or Radiological Emergency, acceded to on 9 May 1994.

HUNGARY

Introduction

At the present time, there is one nuclear power plant in Hungary. It is located at Paks on the Danube and is operated by Hungarian Electricity Companies Ltd. The plant has four units with a capacity of 1,840 MWe.

There is also a waste management and disposal centre for waste generated by hospitals, industry and research. The Püspökszilagy waste management and disposal centre is the only facility in Hungary which provides final disposal for low and intermediate level waste produced by the Paks nuclear power plant. It was opened by the Hungarian Atomic Energy Commission (HAEC) in 1976 and is now operated by the State Public Health and Medical Officers' Service (SPHMOS) of the Ministry of Public Welfare. Site selection and technical planning for a new low and intermediate level waste disposal facility is underway as a National Project.

Competent Nuclear Authorities

In Hungary production of nuclear energy falls under the supervision of the Ministry of Industry and Trade, and responsibility for nuclear activities is shared between the Hungarian Atomic Energy Commission (HAEC) and several Ministries.

Under the supervision of the Ministry of Industry and Trade until 1991, the Atomic Energy Commission is now independent. It advises the Government on nuclear matters and is also the nuclear safety regulatory body. The Commission:

- promotes research and development in the field of nuclear safety;
- co-ordinates the regulatory tasks divided among the different Ministries;
- sets up and governs the operation of the national nuclear material accountancy and control system;
- performs the tasks arising from Hungary's international obligations in connection with nuclear exports and imports of nuclear materials;
- co-ordinates Hungarian participation in the activities of the IAEA and maintains relations with other international bodies involved in nuclear activities;
- establishes and maintains bilateral and multilateral relations in fields within its competence.

The Commission is composed of a Scientific and Technical Advisory Board and an administrative body called the Hungarian Atomic Energy Office (HAEO). The Office comprises six departments: Nuclear Safety Inspectorate, Supreme Nuclear Safety Inspectorate, Finance and Administration, Supreme Inspectorate Safeguards, Research and Development and External Relations.

The Nuclear Safety Inspectorate (NSI) was restructured in 1995 to provide greater efficiency. Its official tasks include licensing procedures as well as surveillance and evaluation of all nuclear activities. In addition, it verifies that, technically, nuclear power plants are in conformity with regulatory requirements.

The NSI is composed of several divisions, each one being responsible for a specific domain; for example, the technical division established at the beginning of 1995 is designed to improve inspection work by the use of very detailed technical analysis.

The role of the Supreme Nuclear Safety Inspectorate is to:

- prepare regulations concerning nuclear power plants, including the drafting and updating of nuclear safety regulations;
- supervise the NSI's activities in order to avoid any appeal of its decisions;
- render judgements in the event of an appeal against any NSI decision.

The Ministry of Welfare is responsible for the development and implementation of radiation standards as well as regulation of installations for waste disposal.

The Ministry of the Environment and Regional Development establishes air and water quality standards and monitors the level of radioactive waste produced by power plants and its effect on the environment.

The Ministry of Interior is responsible for security, emergency preparedness and fire protection.

The Ministry of Transport, Telecommunication and Water Management is responsible for regulation of the use and transportation of water.

Legislation in Force

The legal regime applicable to nuclear activities in Hungary is set down in Act No. 1 of 1980, the Atomic Energy Act. The different Ministries are responsible for implementing the Act in their respective fields of jurisdiction by means of decrees.

The 1980 Act specifies that:

- nuclear energy must be used exclusively for peaceful purposes;
- nuclear energy must be used in such a way as to avoid harming human life, health, present and future living conditions, the environment and property;
- safety requirements in connection with the use of nuclear energy must be brought up to date on a continuous basis, in line with technical and scientific developments;
- nuclear power plant builders must apply safety and quality assurance rules.

Ordinance No. 12 of 5 April 1980 of the Council of Ministers, made pursuant to the 1980 Act, regulates nuclear activities in detail.

Ordinance No. 7 of July 20 1988 of the Minister of Public Welfare, also made pursuant to the above Act, lays down the radiation protection rules applicable to all activities involving the use of nuclear energy; it is supplemented by a series of annexes on maximum permissible radiation doses and health provisions applicable to the setting up and operation of nuclear installations (see Nuclear Law Bulletin No. 45).

An Ordinance of 1979 (No. 5) of the Minister of Industry regulates nuclear safety matters. The provisions of the 1979 Ordinance on licensing and administrative procedures have been amended by an Ordinance of 1993 (No. 77) (see Nuclear Law Bulletin No. 52).

Ordinance No. 8 of 31 October 1988 of the Minister of Transport specifies the conditions applicable to all modes of transport of radioactive substances referred to in Ordinance No. 7 of 1988 and lays down measures in case of an incident occurring during transport of such substances.

As regards nuclear third party liability at the international level, Hungary has been a Party to the Vienna Convention and the Joint Protocol since 1989. However, the Atomic Energy Act, which contains nuclear third party liability provisions, was adopted in 1980 and is therefore not completely aligned with the provisions of the Vienna Convention. The main features of the national nuclear third party liability regime are the following:

- the Act provides for the operator's absolute liability; it is liable for damage caused by any event involving radiation or radioactive contamination during operation of a nuclear installation or transport of nuclear materials;
- in the Hungarian legal system, there is no limit to the amount of compensation for nuclear damage; the State guarantees such compensation and its means and extent are governed by the provisions of the Civil Code on compensation;
- the Act applies to damage suffered in other countries only if such countries are Party to an international convention to which Hungary is a Party, or if there is a reciprocity agreement between Hungary and the country concerned;
- the statutory limitation applicable to personal injury or property damage is ten years from the date of the nuclear incident causing the damage;
- the Act makes no special provision as to the competent court for bring claims for compensation; the Code of Civil Procedure applies.

Draft Legislation and Regulations

New legislation in the field of peaceful uses of atomic energy is being prepared and is expected to be adopted at the end of 1996. This Bill requires that a licence be issued for all nuclear related activities. It also takes into account the provisions of the Vienna Convention and the Joint Protocol. The amount of liability for nuclear damage is set at 100 million Special Drawing Rights (SDRs) in case of an incident in a nuclear power plant and at 5 million SDRs in case of an incident during transport. This compensation may be supplemented by a contribution from the Hungarian State amounting to 250 million SDRs.

International Conventions

• Nuclear Third Party Liability:

Hungary was the first Eastern European State to accede to the Vienna Convention and the Joint Protocol on the Application of the Vienna Convention and the Paris Convention.

- Hungary acceded to the Vienna Convention on 28 July 1989.
- Hungary acceded to the Joint Protocol on 26 March 1990.

- **Other Conventions:**

- Treaty on the Non-Proliferation of Nuclear Weapons, ratified on 27 May 1969;
- Convention on the Physical Protection of Nuclear Material, ratified on 4 May 1984;
- Convention on Early Notification of a Nuclear Accident, ratified on 10 March 1987;
- Convention on Assistance in Case of a Nuclear Accident or Radiological Emergency, ratified on 10 March 1987.
- Convention on Nuclear Safety, ratified on 18 March 1996.

KAZAKSTAN

Introduction

Kazakstan has a uranium extraction and ore production industry consisting of uranium geological research agencies, several uranium mines, two facilities for the production of uranium oxide located in Aktau and Stepnogorsk, and one facility for the production of fuel pellets in Ust-Kamenogorsk.

A fast breeder reactor, BN-350, at Aktau is used as a water desalination plant, as well as for the production of electricity.

In addition, Kazakstan operates three research reactors for nuclear safety tests and conducts research at the site of the nuclear research centre at Semipalatinsk, previously the site for nuclear explosion tests. Another research reactor is located near Almaty.

One of this country's main concerns is the contamination and rehabilitation of sites polluted by previous military and civilian nuclear activities.

Competent Nuclear Authorities

The Kazakstan Atomic Energy Agency (KAEA) shares responsibility with several Ministries for activities in the field of nuclear energy.

The KAEA was set up by Presidential Decree in 1992. It is the Government's directing body, responsible for implementing national policy in the nuclear field, and since the beginning of 1996 it has been controlled by the Ministry of Science and New Technologies.

The Agency, which has its own legal status, regulates all activities in the nuclear field. As such, it is responsible for issuing licences to operate nuclear installations.

The Government has empowered the Agency to:

- inspect nuclear installations and impose penalties for violations of the conditions laid down in an operating licence;
- undertake inspections of nuclear safety in installations and ensure the safe management of nuclear materials and radioactive waste (including their collection, reprocessing, transport and storage);
- determine the conditions for implementing quality assurance programmes for ensuring their application during the construction and operation of installations;
- supervise the adoption of preventive measures for nuclear accidents;
- apply State policy on the use of nuclear energy while taking into account international rules;
- control exports and imports of nuclear materials and technology;

- undertake the accounting of nuclear materials and supervise their storage, transport and use;
- represent Kazakhstan at the International Atomic Energy Agency and carry out work on the safe use of nuclear energy at the international level;
- encourage collaboration on scientific, economic and technical know-how between States interested in nuclear technology.

The Ministry of Ecology and Biological Resources is responsible for protecting the environment. Its mission is to conserve resources and natural habitats.

The Ministry of Health provides medical services necessary for the protection of the public and for the protection of employees at risk.

Lastly, the Ministry of Internal Affairs verifies fire safety and physical protection standards in all nuclear installations.

Legislation in Force

The Atomic Energy Agency has prepared two regulations which provide guidance on the use of nuclear energy.

The first Regulation, adopted in 1994 by decision of the Agency's Director General, establishes the conditions for the physical protection of nuclear materials on site and during transport, and sets forth a physical protection system with assigned responsibilities to different public bodies and to operators.

All Government agencies with responsibilities for nuclear installations must submit plans for implementing physical protection measures, in accordance with the provisions of the Regulation. In addition, operators must submit their internal physical protection plans for approval by the Agency.

As regards the operator's plans, which are, in fact, Guidelines published by decision of the Agency's Director General in 1994, they are intended to help operators to establish their own physical protection rules. They provide explanations of the Regulations and of the conditions set forth therein.

The second set of Regulations, on the use of atomic energy, radioactive waste management and spent nuclear fuels, was adopted by the Government on 11 April 1994 (Resolution No. 364).

These Regulations specify the responsibilities of the public authorities with jurisdiction in the nuclear field as well as the conditions for licensing, radiation protection, accounting and control of nuclear materials.

The Law "On Export Control of Armaments, Military Equipment and Dual-Use Products" of 16 June 1996 was drafted by a group of experts from various ministries and agencies, including members of KAEA. The Law is intended to regulate the export of nuclear materials with the most sensitive implications. The regulations are intended to satisfy requirements with respect to nuclear non-proliferation and international security, in accordance with IAEA standards. The system set up for licensing, approval, notification and control ensures that exported nuclear-related items are not diverted to non-peaceful purposes.

Draft Legislation and Regulations

Two pieces of legislation are currently being prepared:

- a Bill on the use of nuclear energy aims to provide for a legal framework; it defines the terms used in the nuclear regulatory procedure and establishes a legislative structure for the use of nuclear energy and for the protection of public health and the environment. The provisions of the Bill aim to reflect the basic regulatory trends at the international level;
- a Bill on radiation protection reflects the main aspects of national policy regarding radiation safety of the population of Kazakhstan. This Bill aims to ensure the safety of the public, and more particularly to protect the interests of present and future generations. It deals with the rights of individuals in the context of such safety, the duties of users of ionising radiation sources and the responsibilities of State bodies.

International Conventions

- Treaty on the Non-Proliferation of Nuclear Weapons, acceded to on 14 February 1994.

LATVIA

Introduction

There are no nuclear power plants in operation or under construction in Latvia. There is, however, an IRT-type research reactor at Salaspils in the Riga region. It was commissioned in 1961 and is scheduled for decommissioning in 1996.

Competent Nuclear Authorities

The Ministry of Environmental Protection and Regional Development and the Ministry of Welfare are the two regulatory bodies with jurisdiction in the nuclear field.

The Ministry of Environmental Protection and Regional Development is responsible for the regulation and control of all uses of ionising radiation sources (with the exception of applications in the field of medicine) and for international co-operation in the nuclear field.

The mission of the Radiation and Nuclear Safety Inspectorate, which forms part of this Ministry, is as follows:

- to authorise activities involving the use of ionising radiation and to monitor compliance with nuclear safety standards;
- to regulate the transport of nuclear and radioactive materials;
- to establish a State system of accounting and control of nuclear materials;
- to organise and update the State data base for radioactive materials and ionising radiation sources.

The Environmental Data Centre, which is also under the authority of the Ministry of Environmental Protection and Regional Development, is responsible for the early warning system in case of a nuclear accident.

The Ministry of Welfare is responsible for radiation protection in the medical field (diagnostics, radiation applications, accelerators, etc.). The Public Health Centre and the Radiology Centre are placed under the authority of the Ministry of Welfare.

The Radiology Centre is responsible, *inter alia*, for the licensing and regulation of X-ray applications in medicine and for dosimetry in general.

Legislation in Force

The Act on Radiation and Nuclear Safety which was adopted by the Latvian Parliament and published on 1 December 1994, came into force on 1 January 1995. The Act governs all activities involving radioactive or nuclear materials and all sources of ionising radiation.

It establishes the basic principles of radiation and nuclear safety (justification, optimisation and limitation) and also contains provisions on nuclear third party liability. The Act provides for a two-pronged system of licensing: on the one hand, licences for all operations of a commercial nature; on the other, permits for non-commercial operations.

Operators of radioactive installations must provide all necessary information to the Inspectorate showing that safety measures are, in fact, being applied. The Inspectorate may then deliver licences or permits, as the case may be. The Inspectorate may at any time withdraw or revoke licences or permits if radiation protection and nuclear safety requirements are not met.

Latvia became a Party to the 1963 Vienna Convention on Civil Liability for Nuclear Damage and to the Joint Protocol relating to the Application of the Vienna Convention and the Paris Convention. The provisions of the Act on Radiation and Nuclear Safety of 1994 concerning nuclear third party liability are, therefore, consistent with the regime of the Vienna Convention:

- the maximum amount of liability for nuclear damage is set at the minimum amount provided by the Vienna Convention (5 million US Dollars, 1963 value);
- the operator is exclusively liable for nuclear damage originating in his installation (strict liability);
- the major portion of compensation will be provided by the State, while the Nuclear Research Centre (operator of the Salaspils research reactor) will jointly cover the remainder through an insurance system.

Lastly, two regulations have been prepared pursuant to the Radiation and Nuclear Safety Act of 1 December 1994: a draft regulation on protection against ionising radiation and a Regulation on the Issuance of Licences for Activities dealing with Radioactive Substances and Other Ionising Radiation Sources.

The latter Regulation, which was adopted on 20 June 1996, entered into force on 1 September 1996. It sets out the requirements for licence applicants, the liability limits for different types of facilities (X-ray equipment, research laboratories, etc.) and aims to establish a strict control over all such activities. The agencies with jurisdiction to deliver licences are the following:

- the Environmental Health Centre, under the authority of the Ministry of Welfare, for medical applications, excepting X-ray equipment;
- the Radiology Centre, under the authority of the Ministry of Welfare, for X-ray equipment;
- the Radiation and Nuclear Safety Inspectorate of the Ministry of Environmental Protection and Regional Development, for all other activities which fall within the scope of the law;
- the Department of Export and Import Control of the Latvian Development Agency, for the export, import and transport licences of nuclear materials.

In order to obtain a licence, the applicant must complete a special declaration form which, along with a number of other documents, will be reviewed by the relevant agency. Once delivered, a licence is valid for a period of three years. However, any licence may be subject to revocation should a violation of safety standards be detected on inspection. Upon expiration, the licence is not automatically renewed, and a new application must be made.

Draft Legislation and Regulations

Draft regulations have been prepared on the basis of the safety standards of the International Atomic Energy Agency (IAEA), the European Union (EU) and other international recommendations.

There is also a draft regulation for protection against ionising radiation which is expected to be adopted in the near future. This regulation is of broad scope and covers numerous activities: manufacturing, import, export, transport, trade and use of all radioactive substances and sources of ionising radiation in excess of 5 keV. It aims to protect the public, employees and the environment against the harmful effects of ionising radiation emitted from any source and to ensure the safe use of radiation sources.

The appropriate agencies will enforce compliance with this regulation by the issuance of licences, *a priori* control and, with regard to inspection procedures, *a posteriori* control. The agencies with jurisdiction will be the Radiation and Nuclear Safety Inspectorate, the Public Health Centre and the Radiology Centre.

Chapter XV of this draft regulation deals with the early notification of nuclear accidents. Its provisions take into account the two 1986 IAEA Conventions (Convention on the Early Notification of Nuclear Accident and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency) as well as the European Community regulations and the obligations of Latvia with respect to its bilateral treaties.

It is anticipated that a regulation on radioactive waste management will be adopted in 1997.

International Conventions

- **Nuclear Third Party Liability**

- Latvia acceded to the Vienna Convention on 15 March 1995.
- Latvia acceded to the Joint Protocol on 15 March 1995.

- **Other International Conventions**

- Treaty on the Non-Proliferation of Nuclear Weapons, acceded to on 31 January 1992;
- Convention on Early Notification of a Nuclear Accident, acceded to on 28 December 1992;
- Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, acceded to on 28 December 1992;

LITHUANIA

Introduction

There are two reactors in operation at the Ignalina nuclear power plant (2,500 Mwe), providing approximately 80 per cent of the electricity used in Lithuania.

Competent Nuclear Authorities

Several Ministries are responsible for regulating the use of nuclear energy: the Ministry of Energy, the Ministry of Health, the Ministry of Environmental Protection and the Ministry of Internal Affairs.

In 1993, The Ministry of Energy created a sub-agency called The Energy Agency. Financed by the Government and reporting directly to the Ministry of Energy, the Agency's mission is to regulate the energy sector. It is responsible for the application of legislation in the field of energy as well as for a national energy program. It is divided into several departments, one of which is devoted solely to nuclear energy.

There is also a State Public Health Centre. This Centre, a part of the Ministry of Health, is responsible for the control of radiation protection measures in research applications, medicine and uses of nuclear power. It also regulates radioactive waste produced by research, medicine and industry.

In addition, after the dissolution of the Soviet bloc, Lithuania set up its own Nuclear Power Safety Inspectorate (VATESI) by Government decision of 1 November 1991. The duties of VATESI include:

- drafting and, with the authority of the Government, approving safety standards and rules for the design, construction and operation of nuclear facilities, for storage of nuclear and radioactive materials and for waste disposal;
- ensuring adherence to the requirements set forth in licenses and safety rules and standards;
- establishing the system of accounting for and regulation of nuclear materials;
- issuing licenses for the design, construction, operation and decommissioning of nuclear facilities and of their systems as well as evaluating the safety of nuclear facilities.

Finally, to assist VATESI in its work, the Government set up the Nuclear and Radiation Safety Committee by Decree in May 1993. The Committee's members include environmental and nuclear safety experts from Lithuania and elsewhere.

The Committee assists the Government in resolving problems in the field of nuclear energy, principally through international co-operation. It works with the Ignalina power plant management, VATESI and the Minister of Energy and provides advice on upgrading nuclear safety and on the development of strong regulatory infrastructures. It may also advise the Government on the price of electricity or on other specific questions. The Committee receives no funding from the Government; its expenditure is covered by its members and by the Lithuanian Energy Institute.

Legislation in Force

There is no single law in Lithuania which deals with the uses of nuclear energy. The legal framework for such activities is composed of several general laws, each of which contains certain provisions relative to the nuclear field, as well as many Government decisions (the Statute of VATESI, the setting up of the Nuclear Safety and Radiation Committee, etc.).

The general laws include the Energy Act, the State Enterprise Act, the Act on Specific State Enterprises and the Act Ratifying the Vienna Convention and the Joint Protocol.

Act No. I-134 implementing the application of the 1963 Vienna Convention and the 1988 Joint Protocol in Lithuania was promulgated on 30 November 1993 by the President of the Republic of Lithuania.

The Act stipulates that the provisions of the Vienna Convention and the Joint Protocol shall be directly applicable in Lithuania. It also provides that a nuclear operator's liability shall be defined in Lithuanian litas, equivalent to the minimum liability amount set out in the Vienna Convention (5 million USD, 1963 value). Finally, the Act clearly states that nuclear installations owned by a single operator and situated on the same territory shall be considered as one nuclear installation.

The Lithuanian Parliament approved on 5 July 1995 Law No. I-1002, relative to the control of imports, transportation and export of strategic goods and technology. The aim of this Law is to regulate activities which could contribute to the proliferation of nuclear weapons. It ensures the implementation of international agreements and measures prohibiting such proliferation and establishes lists of goods subject to control as well as lists of countries with which all import or export of goods subject to control is prohibited.

Licences are necessary for all goods subject to control. Such licences are issued by the Ministry of Economy. The Ministries of Environmental Protection, Energy, Defence, Finance (Customs) and various other State entities whose activities involve goods subject to control, must consult the Ministry of Economy in the event of a decision concerning goods subject to control.

Draft Legislation and Regulations

Preparation of a general Bill on nuclear energy is well under way. This Bill establishes the rules applicable to the use of nuclear energy, provides a legal framework for nuclear activities and guarantees the peaceful use of nuclear materials and technology.

The Bill's aim is to guaranty nuclear safety in the use of nuclear energy and to prevent the proliferation of nuclear weapons and the unauthorised possession of nuclear material in Lithuanian territory.

The Bill contains a very general definition of nuclear activities and sets forth the obligation to obtain a licence from the competent authority in order to engage in the activities in question. The operator of a nuclear installation is responsible for making sure that its activities are in compliance with the law. Activities subject to licensing are many: the construction and operation of nuclear installations, activities which could affect safety during the operation of the nuclear installation, the decommissioning of nuclear installations, the storage of radioactive waste and other radioactive material, the acquisition, possession or transport of radioactive material, and the import and export of all material belonging to the nuclear energy sector.

This Bill also contains specific provisions relating to the import, export, transport and storage of radioactive material, the physical protection of nuclear power plants and radioactive material.

As regards nuclear third party liability, the Bill refers to the provisions contained in the Vienna Convention of 1963. Specifically, the operator is liable for nuclear damage to a natural or legal person as well as to their property. Environmental damage is also taken into account. The operator must acquire and maintain insurance to

cover his liability. The government will intervene in the event the operator is unable to provide compensation for said damages.

Finally, the prescription period for filing a claim for compensation is 10 years maximum, commencing with the date on which the damage was suffered.

On August 5, 1996, the Government issued Decree No. 914 approving the draft Bill, which was then submitted to Parliament for final approval.

International Conventions

- **Nuclear Third Party Liability**

- Lithuania acceded to the Vienna Convention on 15 September 1992.
- Lithuania acceded to the Joint Protocol on 20 September 1993.

- **Other Conventions**

- Treaty on the Non-Proliferation of Nuclear Weapons, acceded to on 23 September 1991;
- Convention on the Physical Protection of Nuclear Material, acceded to on 7 December 1993;
- Convention on Early Notification of a Nuclear Accident, acceded to on 16 November 1994;
- Convention on Nuclear Safety, ratified 27 May 1996;

POLAND

Introduction

There are no nuclear power plants in Poland at present. There are, however, several research reactors, including the Ewa reactor whose decommissioning was begun on February 24, 1995.

Competent Nuclear Authorities

The National Atomic Energy Agency (“Panstowa Agencja Atomistyki” or NAEA) is the main supervisory body in the nuclear field. The NAEA was set up by the Atomic Energy Act of 10 April 1986 and is a Government body directly under the authority of the Prime Minister who appoints the President of the Agency.

The NAEA, assisted in its work by the Atomic Energy Council, has extensive responsibilities including jurisdiction over:

- regulating nuclear safety and radiation protection;
- licensing of production, treatment, storage, transport, use and trade of nuclear materials as well as of radioactive sources and waste;
- licensing in connection with siting, construction, commissioning, operation and decommissioning of nuclear installations, following an assessment of all safety-related risks;
- licensing of the construction and operation of radioactive waste repositories;
- research on nuclear energy and its applications;
- supervising the manufacture of nuclear equipment and radiation sources;
- supervising radioactive waste management;
- registration, control and physical protection of nuclear materials;
- informing the public of nuclear activities;
- co-operating with other countries on the peaceful uses of nuclear energy.

In carrying out its tasks, the Agency may:

- co-operate with other Government bodies with specific jurisdiction in fields such as technical safety, control of public health or environmental protection;
- in the interests of safety, obtain relevant information from governmental or non-governmental organisations;

- initiate contacts with international organisations.

The Atomic Energy Council, alongside the NAEA, is an advisory body concerned with matters falling within the scope of the Agency's mandate. It was established by a Decree of the Prime Minister of 8 February 1993.

The Council consists of a Chairman, no more than three Vice-Chairmen, a scientific secretary and no more than forty members. Their term of office is four years. The Prime Minister, on the recommendation of the President of the Agency, appoints and recalls the Chairman of the Council. Scientists, atomic energy specialists and representatives of public administrations and social organisations may take part in the Council's work.

The Council initiates all activities aimed at furthering the development of atomic energy, improving radiation protection and nuclear safety, and at providing information on matters related to the application of nuclear and radiation techniques. The Council issues resolutions, opinions and experts' reports. Its expenses are covered by the Agency's budget.

The Agency Management Committee is composed of a Chairman, who is also President of the Agency, and a Vice President, who is Chief Inspector for Nuclear Safety and Radiation Protection, along with representatives from various Ministries: the Ministry of Industry and Commerce, National Education, Defence, Interior, Foreign Affairs, Health and Welfare as well as the Ministry of Environmental Protection, Natural Resources and Forests. The aim of the Committee is to resolve problems encountered in the Agency's various activities by preparing programmes of action and by studying the Agency's annual activity reports.

Legislation in Force

The Act of 10 April 1986 is comprehensive legislation governing all nuclear activities in Poland. It sets out responsibilities and tasks of the authorities and bodies engaged in such activities. Adoption of the Act reflected the nuclear programme in existence at the time, which included plans for the construction of a nuclear installation at Zarnowiec; those plans were postponed in 1989. The Act has been amended several times since 1986.

The Act provides that the primary consideration in the use of nuclear energy should be the protection of health, life, property and the environment. It establishes a licensing system for the following:

- nuclear installations (from site selection to decommissioning);
- production, use, conversion, storage, transport of and trade in nuclear materials, radioactive sources and waste;
- construction and operation of radioactive waste repositories;
- manufacture and use of radiation-emitting devices, etc.

These licences are issued by the President of the Agency who may, at any time, withdraw or amend a licence if nuclear safety or radiation protection requirements are not met. Operators are required to maintain records of licensed materials and radioactive sources, including waste, and to take measures to ensure their physical protection.

Establishments using nuclear materials must prepare training programmes for their personnel; these programmes must be approved by the President of the Agency.

The President of the Agency and several inspectors are responsible for government surveillance and control of to all aspects of nuclear safety and radiation protection.

The Act also contains provisions on nuclear third party liability and compensation. The operator of a nuclear installation is liable for all nuclear damage resulting from the operation of the installation (absolute and exclusive

liability). As regards damage occurring during transport of nuclear materials, the consignor operator is liable therefor until the materials reach their destination.

There is no prescription period for personal injury claims arising from a nuclear incident. However, for claims in respect of loss of or damage to property or damage to the environment, the prescription period is ten years, commencing with the date the incident occurred. The Ministry of Finance is to establish the amount of financial security covering the third party liability of nuclear installation operators. When nuclear damage suffered by any person exceeds the compensation amount, the victim may request compensation from the Treasury Department. As for damage to property and the environment, the Council of Ministers is to determine the method of compensation for losses greater than the limit of liability.

The 1986 Atomic Energy Act was amended on 24 June 1994 (DZ.U. No. 90, poz.418). This amendment provided for the possibility of obtaining assistance from the State budget for any expenditure required in the interests of the safe use of nuclear energy. On 6 December 1994, the President of the Agency issued an Ordinance specifying the type of activity connected with the safe use of nuclear energy which could benefit from such financial assistance (DZ.U. No. 131 poz. 661).

The Atomic Energy Act is supplemented by several orders, ordinances and decrees.

The Order of 31 March 1988 lays down dose limits for ionising radiation as well as derived release limits. It defines dose limits for occupationally exposed persons, for persons in the vicinity of nuclear power plants and for persons exposed to radiation through everyday use of radiation-emitting products.

The Regulation of 6 June 1988, made pursuant to the 1986 Act, lays down the principles for the physical protection of nuclear materials. It provides for measures to protect nuclear materials against theft, sabotage or illegal uses, according to the category of nuclear material as classified in the Convention on the Physical Protection of Nuclear Material to which Poland is a Party.

The Act of 2 December 1993 dealing with trade of certain articles and technology with third countries provides for controls regarding import, export and transportation, in accordance with international agreements concluded by Poland..

The 1988 Order was amended on 7 July 1995 by the President of the Agency to provide for radon dose limits in residences and workplaces. The real innovation is in the value of radon used. From now on, the values of radon conform to those required by European standards in the field. Furthermore, no person under the age of sixteen may work in an environment where radiation is present (Mon. Pol. No. 35, poz. 419).

Finally, an Act which was adopted by Parliament on 21 July 1995 and which modifies certain regulations of the Ministry of the Interior, provides for harsher penalties for failure to comply with the rules established in the field of nuclear safety and radiation protection. In addition, the Act stipulates that it is the responsibility of the President of the NAEA to issue an order to more clearly define which activities involving the use of ionising radiation sources are subject to prior licensing.

In the same year, the Council of Ministers passed a regulation defining conditions for granting licences referred to in the Atomic Energy Act.

Draft Legislation and Regulations

A Bill to revise the Atomic Energy Act of 1986 is currently being prepared. A final version is expected to be completed in 1997.

In addition, several orders and decrees amending the Act of 1986 are also being prepared. These proposed amendments concern the following:

- applicable procedures in the case of a nuclear or radiological accident suffered by the population and the environment;
- possible exemptions from licensing for activities involving the use of atomic energy;
- increased level of qualification for personnel working with radioactive sources.

International Conventions

- **Nuclear Third Party Liability**

- Poland acceded to the Vienna Convention on 23 January 1990.
- Poland acceded to the Joint Protocol on 23 January 1990.

- **Other International Conventions**

- Treaty on the Non-Proliferation of Nuclear Weapons, ratified on 12 June 1969;
- Convention on the Physical Protection of Nuclear Material, ratified on 5 October 1983;
- Convention on Early Notification of a Nuclear Accident, ratified on 24 March 1988;
- Convention on Assistance in Case of a Nuclear Accident or Radiological Emergency, ratified on 24 March 1988;
- Convention on Nuclear Safety, ratified on 14 June 1995.

ROMANIA

Introduction

At present, Romania has a nuclear power station at Cernavoda on the Danube. One unit is in operation while four others are under construction. The reactor, a Candu-type unit with a 600 MWe capacity, has been operated by RENEL, the Romanian Electricity Authority, since 17 April 1996.

Competent Nuclear Authorities

The National Commission for the Control of Nuclear Activities (Comisia Nationala pentru Controlul Activitatilor Nucleare - CNCAN) is the body responsible for the licensing and control of the use and development of nuclear energy. The Commission is headed by a Chairman who holds the rank of Under-Secretary of State; he reports directly to the Minister of Waterways, Forestry and Environmental Protection.

The Commission was established by Decree No. 29 of 8 January 1990 and its jurisdiction was established by Decree No. 221 of 11 May 1990. The Commission is fully responsible for all issues relevant to nuclear safety in the siting, construction and operation of nuclear installations in Romania, as well as for quality assurance, radiation safety, safeguards, export controls, physical protection and emergency preparedness.

In the discharge of its duties, the Commission:

- issues regulations, technical documents, standards and instructions for the safe operation of nuclear installations and power plants;
- reviews and assesses safety information submitted by licence applicants;
- issues, amends and revokes licences; and
- generally regulates all nuclear activities.

The Commission is also responsible for developing international co-operation in the nuclear field with bodies engaged in similar activities in other countries and with international organisations.

The Commission has two main Divisions: the Nuclear Regulatory Division and the State Inspectorate for Nuclear Protection. Both report directly to the Chairman of the Commission.

Each Division is made up of three sections. The Nuclear Regulatory Division includes:

- the Reactor Safety Evaluation and Analyses Section;
- the Radiation Safety Section;
- the Radioactive Materials, Waste and Transport Section.

The State Inspectorate for Nuclear Protection includes:

- the Reactor Safety Compliance and Quality Assurance Section;
- the Radiation Safety Compliance Section;
- the Safeguards, Physical Protection, Emergency Response and Import/Export Controls Section.

Different Ministries also play a part in regulating nuclear activities, as follows:

- the Ministry of the Interior establishes rules concerning fires and physical protection;
- the Ministry of Health has jurisdiction over the use of radioactive products for diagnosis and medical treatment;
- the Ministry of Water, Forests and Environmental Protection is responsible for regulating radioactivity in the environment (air, water, soil, vegetation); and
- the Ministry of National Defence is responsible for civil defence.

The National Atomic Energy Agency was created on 1 November 1994 as a department of the Ministry of Research and Technology. As such, it is responsible for scientific research, the development and application of nuclear technologies, and the promotion of the application of nuclear energy.

The Agency's goal is the co-ordination of nuclear research at the national level.

RENEL, operator of the Cernavoda nuclear power plant, is owned by the Government and reports directly to the Ministry of Industry.

An important part of nuclear power plant research and design is performed by the Pitesi Institute for Nuclear Research and the Centre for Nuclear Project Design and Engineering at the National Administration for Electricity - RENEL.

Finally, a National Export Control Agency was created by Government Decision of 23 September 1992 (Decision No. 594/1992) to oversee the import and export of sensitive goods and technology. Its duties include the following:

- the examination of certificates relating to the import of nuclear products and the rendering of advice based on such examination;
- the verification of all aspects of the import and export of goods and technologies subject to control;
- participating in international co-operation in this field.

Legislation in Force

In Romania, nuclear activities are governed by Act No. 61/1974, together with Act No. 6/1982 dealing with quality assurance in respect of all nuclear installations. The Commission has also issued nuclear safety regulations which take into account the IAEA's safety codes and guides.

In accordance with Act No. 61/1974 a licence issued by the Commission, exclusively to legal entities, is required for the following activities:

- scientific research, development and application of nuclear technology;
- design, construction and operation of nuclear installations;
- prospecting for mining, development, production, utilisation, transport and storage of radioactive substances or nuclear-related materials, including radioactive waste;
- supply, sale, possession, transfer, import and export of radioactive substances and nuclear-related materials.

The use of radionuclides and radiation sources for medical purposes as well as irradiated products for public consumption require the opinion of the Ministry of Health before the Commission issues a licence.

Licensees must ensure that their work is carried out in accordance with the regulations and standards in force. They must apply the measures required for nuclear safety, protection of personnel, the population at large and the environment.

Medical checks of exposed personnel are carried out continuously, in accordance with measures laid down by the Ministry of Health.

Licensees must also keep a detailed account of the radioactive and nuclear materials for which they are responsible and ensure that they will not be lost, stolen or released accidentally. In the event of an accidental release, they must inform the competent authorities, who, in turn, will inform neighbouring countries accordingly; they must also limit and mitigate the consequences of any such release.

In addition, the Minister of Water, Forests and Environmental Protection has enacted Order No. 2/1993 providing for emergency preparedness in the case of a nuclear accident or radiological emergency.

Imports and exports of nuclear materials are regulated by both the above-mentioned Government Decision No. 594/1992 and by other Orders.

Order No. 40/1991 jointly issued by the Ministers of Foreign Affairs, National Defence, Industry, Trade and Tourism provides for a system of control over the export of materials, chemical and biological substances.

Order No. 2/1993, which was made by the Minister of Trade in implementation of Government Decision No. 594/1992, lays down a licensing system for the import and export of radioactive materials and nuclear equipment other than the equipment and products which can be used directly for the manufacture of nuclear explosive devices. Also, Act No. 88/1992 has introduced a provision in the Penal Code to sanction any breach of the regulations on imports of wastes and residues.

Act No. 61/1974 also establishes a regime governing liability for nuclear damage in Romania. At the international level, Romania has been a Party to the Vienna Convention and the Joint Protocol since 1992. The 1991 Constitution provides that international treaties to which Romania is a Party are part of Romanian national law.

The Act does not define the territorial scope of the third party liability provisions. A licensee is exclusively liable, irrespective of fault, for damage caused by a nuclear incident in his installation or during transport of radioactive materials ordered by him. Under the Civil Code, the liability of a person in charge of a thing is absolute. If several licensees are liable for nuclear damage, liability is apportioned between them according to the extent of the damage each has caused; if this is impossible to establish, liability is borne in equal parts. A licensee is not liable for damage caused by a nuclear incident due to armed conflict or a natural catastrophe.

Liability for damage covers loss of life, personal injury and destruction of or damage to property.

The liability of a licensee is limited to 80 million lei per nuclear incident (approximately 3 million Special Drawing Rights). It must take out insurance or other security to cover his liability. There are no provisions specifying that the State has an obligation to provide additional compensation in case the nuclear damage exceeds the licensee's maximum amount of liability.

The right to compensation for nuclear damage expires ten years from the date on which the victim had or could have had knowledge of the damage and of the licensee liable.

Finally, as regards the competent court, the Code of Civil Procedure provides that jurisdiction lies both with the court of domicile of the defendant and with the court of the place where the incident occurs; the plaintiff may decide where the action will be brought.

Draft Legislation and Regulations

A Bill on the safety of nuclear activities was submitted to Parliament in March 1994. Its purpose is to bring up to date the Acts of 1974 and 1982, taking into account:

- the changes in Romania's political and economic environment, including the achievement of an economy based on a free market, democracy and a separation of powers;
- the regulatory experience acquired in Romania since the two above Acts;
- new legal developments perceived in other countries;
- recommendations by IAEA experts.

The new Act will apply to the design, construction, operation and decommissioning of nuclear installations. It will also apply to ore extraction and processing of uranium and thorium ores; and to production, supply and storage of nuclear fuels, radioactive materials and waste. These activities will require a licence from the National Commission for the Control of Nuclear Activities covering nuclear safety, radiation protection, quality assurance, non-proliferation and physical protection.

A licence may be partially suspended or revoked by the issuing authority when:

- the holder of the licence fails to comply with the provisions of the present Law;
- new technical facts, affecting the issuance of the licence;
- the holder of the licence is no longer considered a valid legal entity.

All activities contributing to the proliferation of nuclear weapons or other explosive devices and which represent a threat to national security will be henceforth prohibited. This provision covers the manufacture, import, export and transportation of nuclear weapons or explosive devices on Romanian territory. The import of radioactive waste is forbidden, with the exception of the reimportation of spent fuel which has been processed overseas, such importation being considered a valid contract under the new Law.

Based upon certain provisions of this draft legislation, other regulations are planned regarding third party liability for nuclear damage, revision of standards governing the transport of radioactive material and standards relative to radiation protection.

International Conventions

- **Nuclear Third Part Liability**
 - Romania acceded to the Vienna Convention on 29 December 1992.
 - Romania acceded to the Joint Protocol on 29 December 1992.

- **Other Conventions**
 - Treaty on the Non-Proliferation of Nuclear Weapons, ratified on 4 February 1960;
 - Convention on Early Notification of a Nuclear Accident, acceded to on 12 June 1990;
 - Convention on Assistance in Case of a Nuclear Accident or Radiological Emergency, acceded to on 13 June 1990;
 - Convention on the Physical Protection of Nuclear Material, ratified on 23 December 1993;
 - Convention on Nuclear Safety, ratified on 1 June 1995.

RUSSIAN FEDERATION

Introduction

With an installed capacity of more than 20,000 MWe, the Russian Federation is the largest producer of nuclear power-generated electricity of the three former Soviet Republics having nuclear power plants in operation.

At present, there are 29 nuclear power plants in operation in Russia and 18 units under construction.

Competent Nuclear Authorities

Jurisdiction over nuclear related matters lies primarily with the Ministry of Atomic Energy (Minatom), whose objectives are as follows:

- to carry out state scientific and technical policies;
- to devise and implement measures to ensure the safe utilisation of nuclear energy;
- to develop appropriate standards and rules in the nuclear field;
- to design and implement radioactive waste treatment programs.

In order to exercise centralised control over nuclear power plants and to ensure their safety, Rosenergoatom was created by Presidential Edict No. 1055 on 7 September 1992. The Edict defines the dual role of this body: first, a nuclear power plant supervisory agency and secondly, a state-owned enterprise.

Rosenergoatom is responsible for the management of all nuclear power plants with the exception of the Leningrad plant. It reports to Minatom even though it is, in principle, autonomous. Rosenergoatom is considered as the licensee for nuclear power plants as well as the operator liable, in connection with the nuclear third party liability regime.

Nuclear activities also fall under the jurisdiction of the State Committee for Nuclear and Radiation Safety (Gosatomnadzor). The Statutes of Gosatomnadzor were approved by Presidential Directive No. 283-r on 5 June 1992 as amended by Presidential Directive No. 636-r of 16 September 1993 and Presidential Edict No. 1923 of 15 September 1994, dealing with measures to improve the management of nuclear materials.

Presidential Directive No. 350-r of 26 July 1995 redefined certain regulatory functions in the nuclear energy field. Gosatomnadzor is, for example, now subject to two authorities: as a federal agency forming part of the executive authority, it derives its authority from the Russian Government; however, insofar as it deals with matters of nuclear safety, it falls directly under the authority of the Russian President.

According to the Law on the Use of Atomic Energy of October 20, 1995 and to the provisions contained in its Statutes, Gosatomnadzor is responsible for organising and implementing the regulation of nuclear activities for peaceful purposes. It is charged with the tasks of defining safety principles and criteria, standards, rules and other regulatory measures and, in particular, of establishing a licensing and inspection system for such activities.

In addition, Gosatomnadzor has the following specific responsibilities:

- to ensure compliance with the requirements of Russian legislation as regards nuclear and radiation safety, in the manufacture, treatment and use of nuclear energy, nuclear materials and radioactive substances;
- to regulate the storage and treatment of radioactive waste and of spent fuel, as well as their recycling and disposal;
- to ensure the physical protection of nuclear technologies and materials as well as their non-proliferation;
- to conduct inspections of hazardous nuclear and radiation facilities;
- to issue licences to carry out activities involving the use of nuclear energy;
- to impose penalties in the event that safety regulations are violated, including the revocation of licences, if warranted.

It should be noted however that Gosatomnadzor's main function is to issue licences for nuclear installations according to the special procedure outlined in the General Law.

The headquarters of Gosatomnadzor are in Moscow, although it has seven branch offices throughout the Russian territory. Most nuclear installations have an inspector permanently on-site.

As for other agencies which exercise jurisdiction in this field, one finds the following: the Ministry of Environmental Protection and Natural Resources, the Ministry of Health, the Ministry of Internal Affairs, the Ministry of Civil Defence, Emergencies and Natural Disasters, the Ministry of the Navy and the Russian Federal Hydrometeorology and Environmental Monitoring Service.

Lastly, Minatom also operates a number of research institutes, among which are the IPPE, RDIPE and the Institute for Reactor Research. The Kurchatov Institute, part of the Academy of Sciences, reports to the Ministry of Science and Technology.

Legislation in Force

Nuclear Law and Implementing Legislation

In the Russian Federation, a general Law governs all nuclear activities. The Federal Law on the Use of Atomic Energy of 20 October 1995 establishes the legal basis and principles for the regulation of the use of atomic energy. The Law also sets forth certain principles essential to the use of nuclear energy, such as safeguarding health and life and protecting the environment and property.

In addition, the Law contains provisions concerning:

- the secure use of atomic energy;
- free access to information on the use of atomic energy (unless such information constitutes a State secret);
- the participation of citizens, commercial enterprises and corporate bodies in the review of State policy and the drafting of legislation relating to the use of atomic energy; and
- compensation for damage caused by the effects of radiation.

However, activities associated with the development, manufacture, testing and use of nuclear weapons and of nuclear installations for military purposes do not fall within the scope of this Law. Such activities are subject to other federal laws.

The primary purpose of the General Law is to establish a legal framework in which the State can regulate the safety of nuclear activities. It is also designed to set forth the rights and obligations of private citizens, corporate entities and public authorities.

As regards nuclear liability, the Law contains provisions on liability for radiation damage. Although the Russian Federation is not a Party to the Vienna Convention, the Law takes into account its essential elements. Liability for damage caused by operations linked to the use of nuclear energy lies with the operating body or the owner of the nuclear installation, the radiation source or the storage centre. The operating body is absolutely liable for the damage caused, irrespective of fault.

The maximum limit of liability for loss and damage caused by the effects of radiation for a single incident may not exceed the amount of liability determined by international agreements to which the Russian Federation is a Party. In this regard, it should be noted that the Russian Federation signed the Vienna Convention on 8 May 1996. Furthermore, the Law stipulates that the operator is obliged to obtain financial security for the maximum liability amount, as established. Finally, in the event the amount of loss or damage exceeds the maximum limit of liability as provided for, and for which the operator is held liable, the Russian Government is to make available additional compensation for such losses.

Pursuant to this Law, numerous legal instruments have been enacted to regulate the use of nuclear energy. Moreover, by Decree No. 367-r passed, on 12 March 1996, the Government has approved a plan to establish supplementary legislation to cover all activities in the nuclear field.

Presidential Edict No. 1012 of 2 July 1996 is aimed at ensuring the continuation of a safe and reliable nuclear industry in Russia. To this end, the Edict provides for a special fund to be set up by the Government to finance scientific research in order to improve the safety of facilities defined in the General Law. Under the Edict, the Government is also to provide guarantees to attract foreign investment.

Control over Nuclear Materials

Russian Government Decree No. 291, issued on 16 March 1996, defines the procedure for the import and export of radioactive substances, establishes the licensing and regulation of such activities and designates the agencies with jurisdiction in this area.

The Law on the Use of Atomic Energy substantially revises the regulatory framework for Russian exports and imports. Decree No. 124 of 8 February 1996 provides for the creation of a list of nuclear materials, equipment, special non-nuclear materials and technologies which are to be subject to export control. This list has been approved by the President by Edict No. 202 of 14 February 1996. The purpose of the list is to ensure compliance with domestic legislation and with international obligations on non-proliferation of nuclear weapons, as adopted by the Russian Federation.

Edict No. 312, issued by the President on 27 March 1992, is, however, still in effect. It provides for the control of exports of nuclear materials and equipment and of nuclear technology and specifically prohibits their export to countries which are not Parties to the IAEA Safeguards System.

An Ordinance of 22 December 1992 sets out regulations for the import and export of nuclear materials, technology and equipment, radioactive sources and radioisotopes, while another Ordinance of 27 January 1993 regulates export control procedures for dual-purpose equipment and nuclear-related materials and technology.

Radiation Protection

The Federal Law on Radiation Safety of the Population, enacted on 9 January 1996, complements the Federal Law on the Use of Atomic Energy. The Law's purpose is to protect the population against the effects of radiation generated by the use of atomic energy. It establishes a legal and administrative framework to ensure radiation safety throughout the entire territory of the Russian Federation.

This legislation affirms the priority of human health and environmental protection in the context of the operation of nuclear installations, the use of radioactive substances and other sources of ionising radiation. It sets forth three principles of radiation safety as well as a mechanism for implementing such principles:

- the standardisation of permissible dose limits of radiation for the population at large and for personnel working at nuclear installations;
- the prohibition of all activities using sources of ionising radiation for which the benefit to man and society in general does not exceed the risk posed by such activity;
- maintaining the number of people exposed to ionising radiation at the lowest level possible, taking into account the social and economic factors involved in the use of atomic energy.

Radioactive Waste

With regard to radioactive waste management, a proposed law has been passed by the State Duma and is awaiting the signature of the President. Apart from the provisions of the Law on the Use of Atomic Energy, radioactive waste management is subject to various regulations in the area of environmental protection and public health safety:

- the Law of 3 March 1992 on the Protection of the Environment prohibits the import of radioactive waste and materials from other States for the purpose of storage and ground disposal;
- the new Water Code of 1995 prohibits the emplacement of radioactive waste in water basins;
- Governmental Decree No. 824 of 14 August 1993 on priorities for the treatment of radioactive waste and spent fuel;
- Governmental Decree No. 805 of 6 July 1994 on priorities in 1994 for the treatment of radioactive waste and spent fuel.

Decree No. 805 also provides for the commissioning of a radioactive waste treatment facility, establishes measures for the treatment of radioactive waste, and creates regional storage facilities.

Emergency Measures

On 11 November 1994, the Russian Parliament adopted an Act on "The Protection of the Population and Territories in Emergency Situations". This Act defines emergency situations to include those resulting from accidents or disasters at nuclear installations. It is therefore an important piece of legislation for preventing or mitigating the consequences of such accidents.

Presidential Decree No. 1923 of 15 September 1994 (SZ RF 1994, No. 21, p.2304), concerns emergency measures to be taken to improve the inventory and storage system for nuclear materials. The Decree designates Gosatomnadzor as the agency responsible for security, and provides for the Government to establish emergency measures required to carry out the State's special programme for monitoring nuclear materials and nuclear installations and for preventing the illicit traffic of nuclear materials at the State borders.

Government Decision No. 34 of 13 January 1995 (SZ RF 1995, No. 4, p.301) was adopted in accordance with the above Decree. The measures it contains refer mainly to the need to draft appropriate regulations.

Another Decree, No. 72 of 25 January 1995, deals with the Government's support for the restructuring of the nuclear industry in the towns of Zheleznogorsk and Krasnoyarsk. This Decree establishes a system of control for the environment and for the residential areas affected by radiation from the Krasnoyarsk nuclear power plant's industrial activities. This Decree was amended by Edict No. 389 of 20 April 1995, which aims to guarantee the protection of the environment and of public health against the effects of ionising radiation.

Indemnification

Finally, there is in force legislation concerning the protection and indemnification of Russian citizens who were victims of the Chernobyl accident or other radiation accidents. In addition, the following are relevant:

- the Act relative to the social protection of citizens exposed to radiation as a result of the disaster at the Chernobyl nuclear power plant, as amended on 18 June 1992;
- the Act of 20 May 1993 relative to the social protection of citizens exposed to radiation as a result of the accident at the Mayak production centre and radioactive waste discharges into the Techa River in 1957;
- the Act of 19 May 1995 relative to the social protection of citizens as a result of nuclear testing at the Semipalatinsk Test Range.

These laws define the legal status of such victims and establish the procedure for their indemnification. They are complemented by regulations, decrees and other texts, all with the aim of providing the greatest amount of social protection possible.

Draft Legislation and Regulations

Several laws are currently being prepared:

- a Bill concerning compensation for nuclear damage and insurance;
- a Bill concerning radioactive waste management;
- a Bill concerning social protection measures for Russian citizens resident or employed in the vicinity of nuclear installations;
- a Bill providing for the mandatory insurance coverage of Russian citizens against the risks of radiation;
- Several draft laws to amend the Criminal Code and the Code of Administrative Sanctions.

International Conventions

The Russian Federation signed the Vienna Convention on 8 May 1996. Its ratification is pending.

On 21 December 1991, the Russian Federation declared that it would be the successor of the Soviet Union as regards conventions, agreements and other international legal acts concluded within or under the auspices of the IAEA. They are the following:

- Treaty on the Non-Proliferation of Nuclear Weapons, ratified on 5 March 1970;
- Convention on the Physical Protection of Nuclear Material, ratified on 25 May 1983;

- Convention on Early Notification of a Nuclear Accident, ratified on 23 December 1986;
- Convention on Assistance in Case of a Nuclear Accident or Radiological Emergency, ratified on 23 December 1986.
- Convention on Nuclear Safety, ratified on 12 July 1996.

SLOVAK REPUBLIC

Introduction

There are four units in operation at the Bohunice site, with an installed capacity of 1,760 MWe, and four new units under construction at Mochovce. Also, construction of a low-level radioactive waste repository has been completed and is in the process of being licensed.

A gas-cooled heavy-water moderated reactor is being decommissioned.

Competent Nuclear Authorities

The Nuclear Regulatory Authority (“Úrad Jadrového Dozoru” - ÚJD) of the Slovak Republic is the successor of the former Czechoslovak Atomic Energy Commission. It was established on 1 January 1993 and its powers are based on Act No. 2/93 of the Slovak Parliament. The ÚJD acts as an independent state regulatory body reporting directly to the Government and is headed by a Chairman appointed by the Government.

Besides the Chairman, the ÚJD is made up of small secretariat, and two departments, one for inspection activities and one for safety policy and international co-operation.

The Inspection Activities Department is based at Trnava, near the Bohunice nuclear power plants, while the Safety Policy and International Co-operation Department is located at the Bratislava headquarters. There are also two inspection units located at the nuclear power plant sites.

The responsibilities of ÚJD in the area of nuclear regulation cover the following areas:

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

A significant number of central bodies in the Slovak State administration are involved in various activities related to nuclear safety. The following are particularly relevant:

- the Ministry of Economy, responsible for promoting and developing a nuclear power programme and for preparing related legislation;

- the Ministry of Health, responsible for radiation protection and for control of radiation protection measures in nuclear installations and off-site;
- the Ministry of the Environment, which as direct control over local licensing offices which grant siting, construction and operating licences, operates the radiation monitoring network and chairs the Government Commission for Radiological Emergencies;
- the Ministry of the Interior responsible for fire protection, physical protection of nuclear materials and facilities and for civil defence during radiological accidents;
- the Ministry of Labour, Social Affairs and Families with the subordinate State Office for Safety at Work.

Legislation in Force

The legal structure for the regulation of nuclear safety in the Slovak Republic consists, on the one hand, of laws adopted prior to the independence of the Slovak Republic, and on the other, of new laws adopted since independence.

Act No. 28/1984 on State Supervision of the Safety of Nuclear Installations specifies the need to ensure such safety, secure public health and prevent environmental damage. The Act governs the construction and operation of nuclear installations in the Slovak Republic and lays down their licensing system; it provides that the ÚJD is the licensing authority of nuclear installations.

The current legislative framework for the State control of exports and imports of nuclear materials and sensitive items such as dual use items is provided by Regulation No. 28/1977 on accountancy and control of nuclear materials, Act No. 547/1990 on the management of some special substances and their control and by Regulations No. 50/1990 and 505/1992 the latter of which also deals with dual use items.

Act No. 547/1990 specifies that the Ministry of Economy is the agency with jurisdiction to issue export/import licences for nuclear materials and other sensitive items while the official contact point for international bodies dealing with non-proliferation regimes such as the Nuclear Suppliers Group or the Zangger Committee is the Nuclear Regulatory Authority.

The former Czechoslovakia did not have legislation dealing specifically with nuclear third party liability, but the Civil Code applied to especially dangerous activities. This legislation is applicable for the time being in the Slovak Republic (see section on Czech Republic) as well as the Vienna Convention.

Adopted following the creation of the Slovak Republic, Act No. 2/1993 identifies the responsibilities and tasks of the Nuclear Regulatory Authority and specifies its independent status in nuclear safety matters. It lists the ÚJD's different activities, including State supervision of nuclear materials (safeguards), in accordance with the Treaty on the Non-Proliferation of Nuclear Weapons.

Act No. 254/1994 and Decree No. 14/1995 establish a State Fund for decommissioning of nuclear power plants and the management of spent fuels and radioactive waste arising from decommissioning. The Act was adopted by the Parliament, also known as the Council of State of the Slovak Republic, on 25 August 1994. It entered into force on 1 January 1995.

The Fund, which is considered to be 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 Fund is financed through several resources: contributions by nuclear power plant operators, bank and State funding, and other sources.

Draft legislation and regulations

A Bill on the peaceful uses of nuclear energy to replace Law No.28/1984 is currently being prepared under the responsibility of the Nuclear Regulatory Authority. Having been approved by the Government on 12 March 1996, the Bill was presented to Parliament in May. Parliament's comments have been incorporated into the second version of the Bill.

The Bill specifies the conditions for the safe use of nuclear energy exclusively for peaceful purposes, in accordance with the different international agreements concluded by the Slovak Republic. It also contains provisions dealing with liability for nuclear damage. In particular, it foresees the amount of 50 million SDRs as the operator's limit of liability. However, the Slovak Government has the authority to modify this amount by reason of economic change or international agreements.

International Conventions

. Nuclear Third Party Liability

- The Slovak Republic acceded to the Vienna Convention on 7 March 1995.
- The Slovak Republic acceded to the Joint Protocol on 7 March 1995.

. Other Conventions

- Treaty on the Non-Proliferation of Nuclear Weapons, succeeded to on 1 January 1993;
- Convention on Early Notification of a Nuclear Accident, succeeded to on 10 February 1993;
- Convention on Assistance in Case of a Nuclear Accident or Radiological Emergency, succeeded to on 10 February 1993;
- Convention on the Physical Protection of Nuclear Material, succeeded to on 10 February 1993;
- Convention on Nuclear Safety, ratified on 7 March 1995.

SLOVENIA

Introduction

Slovenia has a nuclear power plant in operation (632 MWe) at Krsko, in south-east Slovenia; a Triga-type research reactor (250 kWth) near Ljubljana and a uranium mine, Zirovski Vrh, which is being decommissioned due to economic considerations following a Government decision made in 1992.

Competent Nuclear Authorities

Parliament and the Government generally have jurisdiction over all legislative activities in the nuclear field. The Government submits Bills to Parliament, which, in turn, passes the laws, whereas the Government itself makes the regulations required for implementing such laws.

In 1991, Slovenia completely reorganised the former Slovene Nuclear Safety Administration (SNSA). This previously independent and autonomous regulatory body responsible only to the Government now falls under the authority of the Ministry of the Environment and Physical Planning. The Administration is managed and represented by a Director, confirmed by the Government upon nomination by the Ministry. The Government has the authority to remove such Director from office. At Governmental and Parliamentary levels, the Administration is represented by the Ministry of the Environment and Physical Planning.

The Slovenian Nuclear Safety Administration is divided into five departments:

- The Nuclear Safety Inspectorate
- The Nuclear Safety Department
- The Radiation Safety Department
- The Nuclear and Radiological Materials Department
- The Legal and International Co-operation Department

The Nuclear Safety Inspectorate's primary mission is to verify by inspection that the nuclear power plants are in compliance with the various existing rules and regulations, during both their construction and operation. The Inspectorate therefore determines whether licence holders are adhering to the safety requirements contained in the regulations. The inspections may be done one at a time, or may form part of an overall plan of inspections. To increase their efficiency, inspections may be announced or unannounced. Since none of the inspectors reside on site, regular inspections are carried out on a weekly basis.

The Nuclear Safety Department is divided into two sections which reflect its principle functions. The first concerns licences; the second analyses the uses to which such licences are put.

The Radiation Safety Department is responsible for the radiation safety of nuclear installations, for radiation control and for early notification in case of a nuclear or radiation accident. The Department works directly with the Ministry of Health, which is responsible for all issues relative to radiation protection (with the exception of the protection of the nuclear installations themselves).

The Nuclear And Radiological Materials Department deals with the commerce, transport and treatment of nuclear and radiological materials. It is responsible for the physical protection of nuclear power plants and nuclear materials. It also handles questions regarding the treatment, temporary storage and disposal of radioactive waste. Finally, the Department participates in the selection of sites for nuclear power plants.

The Legal and International Co-operation Department interfaces with the various ministries, the Government and the Parliament. This Department is also involved with licensing procedures and the preparation of legislation on nuclear and radiation safety and on nuclear third party liability.

The Act of November 1994 (Off. Gaz. RS 71/94) on the organisation and assignment of ministerial responsibilities, redefines the Nuclear Safety Administration's main responsibilities, which are now the following:

- nuclear and radiological safety in nuclear installations;
- trade in and transport of nuclear and radioactive materials;
- safeguards for nuclear installations and materials;
- physical protection of nuclear installations and materials;
- liability for nuclear damage;
- licensing of operators and personnel of nuclear installations;
- quality assurance;
- radiological monitoring;
- inspections;
- early notification in case of a nuclear or radiological accident;
- international co-operation in the field of nuclear safety.

The rules applicable to public administration are defined in three laws, applied by the relevant regulatory bodies:

- the Act on the Government (Off. Gaz. RS4/93) which regulates the relations between the Prime Minister, the different Ministries and the heads of other regulatory bodies in the Government;
- the Act on Administrative Procedures (Off. Gaz. SFRY7/86) which deals with all the legal formal procedures to be followed by the Ministries and other regulatory bodies;
- the Act on Administration (Off. Gaz. RS67/94) which deals mainly with the territorial division of the Slovenian administration, at national and local levels and sets out the general powers and responsibilities of an inspector.

The Agency for Radwaste Management was created in 1991 by the Slovenian Government. Its main objective is to manage the final disposal of all types of radioactive waste in the Republic of Slovenia. In order to do this, the Agency for Radwaste Management is responsible for preliminary stages of safe radioactive waste disposal; for preparing and organising all the necessary activities concerning the construction, operation and management of the final repository of radioactive wastes; for research and development in the field of radwaste management; for data collection on radioactive waste producers, quantities and types, for the transport of radioactive wastes to the repository and for public relation and education.

Legislation in Force

The Constitutional Law on Enforcement of the Basic Constitutional Charter on the Autonomy and Independence of the Republic of Slovenia adopted on 23 June 1991 (Off. Gaz. RS1/91) concerning the autonomy and independence of the Republic provides that all the laws adopted by the Yugoslav (federal) authorities in the past, which are not incompatible with the Slovene legal system, will remain in force in the Republic of Slovenia pending the adoption of appropriate legislation by its Parliament.

Accordingly, legislation on nuclear safety in Slovenia is made up of the following previous laws:

- Act of 19 April 1978 on third party liability for nuclear damage (Off. Gaz. SFRY22/78 and 34/79);
- Act on insurance for liability for nuclear damage (Off. Gaz. SRS18/80);
- Act of 5 November 1980 on implementing protection against ionising radiation and measures for the safety of nuclear facilities and equipment (Off. Gaz. SRS28/80);
- Act of 21 November 1984 on Radiation Protection and the Safe Use of Nuclear Energy (Off. Gaz. SFRY/62/84);
- Act on the transport of dangerous substances (Off. Gaz. SFRY/27/90);
- Regulations adopted in implementation of the above laws.

Also to be mentioned are the regulations on civil protection, defined by the Act on Defence and Civil Protection (Off. Gaz. RS/15/91) and, in particular, by the 1994 Act on Protection Against Natural Disasters or Other Disasters (Off. Gaz. RS/46/94).

In application of the Law of 21 November 1984 on Protection against Ionising Radiation and Nuclear Energy Safety, several regulations were adopted concerning:

- siting, construction and operation of nuclear power plants (Off.Gaz. SFRY, No.52/88);
- safety analysis reports (Off.Gaz.SFRY, 68/88);
- operator licensing (Off.Gaz.SFRY, 86/87);
- guarantees (Off.Gaz.SFRY, 9/88);
- monitoring of radioactivity over all of Slovenian territory and radioactive waste (Off.Gaz.SFRY, 40/86);
- monitoring of radioactivity in the area of nuclear power plants (Off.Gaz.SFRY, 51/86);
- trade in radioactive sources and materials (Off.Gaz.SFRY, 40/86 and 45/89).

Draft Legislation and Regulations

The first draft of a Bill on the protection of the environment was adopted in 1993. It deals with nuclear third party liability, including liability for environmental damage. It contains provisions which are currently incorporated into the two above-mentioned Acts and, as well, new provisions concerning, *inter alia*, the allocation of funds in case the nuclear damage exceeds the maximum amount of liability of the operator per nuclear incident. In addition, a draft Bill on nuclear and radiological safety was prepared. A final draft of this legislation is expected to be completed by the end of 1996.

International Conventions

- **Nuclear Third Party Liability**

- Slovenia is a Party to the Vienna Convention (succession on 7 July 1992).
- Slovenia is a Party to the Joint Protocol (accession on 27 January 1995).

- **Other Conventions**

- Treaty on the Non-Proliferation of Nuclear Weapons, succession 7 April 1992;
- Convention on Early Notification of a Nuclear Accident, succession on 7 July 1992;
- Convention on Assistance in Case of a Nuclear Accident or Radiological Emergency, succession on 7 July 1992;
- Convention on Physical Protection of Nuclear Material, succession on 7 July 1992.

UKRAINE

Introduction

There are fifteen nuclear power reactors in operation in the Ukraine with an installed capacity of 14,680 Mwe. Five units are currently under construction. The Chernobyl nuclear power plant has two operating reactors, the Khmelnytskyi plant has one, the Rovno nuclear power plant has three, the South Ukraine plant has four, and the Zaporozhje plant has five in operation.

Competent Nuclear Authorities

The State Committee on Nuclear and Radiation Safety (Gosatomnadzor – GAN), set up by Government Decree No. 52 of 3 February 1992, was the regulatory authority for nuclear safety in Ukraine until December 1994. At that time, its responsibilities were transferred to a new Ministry of Environmental Protection and Nuclear Safety, created by Decree No. 768 of the President of Ukraine on 15 December 1994.

The main objective of this Ministry is to enhance environmental protection and to establish a more efficient safety system for activities connected with the use of nuclear energy, nuclear technologies and radioactive substances.

Regulatory responsibilities have now been separated from management tasks, leading to a reorganisation of the Ministry, which is now composed of:

- the Nuclear Regulatory Administration (NRA) which establishes regulations and standards and is responsible for issuing licences for nuclear activities;
- the Nuclear Safety Inspectorate (NSI), which is responsible for organising and implementing State control over licensees, establishing programmes to ensure the safety of nuclear power plants for inspection, and for supervising the monitoring of radiation;
- the Environmental and Radiation Safety Inspectorate (ERSI), which is responsible for controlling radiation and the use of radioactive sources in the medical, industrial and R&D sectors.

Headed by the First Deputy of the Ministry for Environmental Protection and Nuclear Safety, who is directly appointed by the President of the Republic of Ukraine, the NRA is the section with the greatest autonomy.

Both the NSI and the ERSI are headed by Chief Inspectors appointed by the Council of Ministers.

The Ministry of Health is responsible for establishing radiation protection regulations and standards and for controlling occupational exposures to radiation. The Ministry of Internal Affairs is charged with the physical protection of nuclear materials and installations. Moreover, by virtue of the Presidential Decree of 26 July 1996, the Ministry responsible for settling the consequences of the Chernobyl accident and the Ministry of Civil Defence merged to form a new Ministry of Emergency Situations.

The State Committee on the Utilisation of Nuclear Energy (Gosatomnadzor) covers all nuclear reactors in Ukraine, with authority equivalent to that of a Ministry.

Finally, by Decree of 26 April 1996, the President of Ukraine created a Chernobyl Centre for Nuclear Safety, Radioactive Waste and Radioecology. The purpose of the Centre is to promote international scientific research to fight against the effects of nuclear and radiation accidents and to improve the rehabilitation procedures for environmentally contaminated areas.

Legislation in Force

The Supreme Soviet (Parliament of Ukraine) recently adopted two nuclear laws: the Law of the Ukraine on the Uses of Nuclear Energy and Radiation Safety of 8 February 1995 and the Law of the Ukraine on Radioactive Waste Management of 30 June 1995.

The Law of the Ukraine on the Uses of Nuclear Energy and Radiation Safety (No. 40/95) entered into force on 21 March 1995. It lays down basic principles for the peaceful uses of nuclear energy, including protection of the public and of the environment and defines the rights and obligations of citizens in relation to the use of nuclear energy. Its aim is to create a legal framework for the application of nuclear energy and to permit, therefore, the implementation of legislation regulating activities connected with that application.

The Law applies to all types of activity, including:

- the setting up, commissioning, operation and decommissioning of nuclear installations or ionising radiation sources;
- the management of nuclear materials and ionising radiation sources, specifically the mineral exploitation of materials containing nuclear substances;
- accounting and control of nuclear materials and radiation sources;
- physical protection of nuclear installations and materials;
- co-operation with respect to the Ukraine's international obligations in the nuclear field.

The Law provides for citizens' rights to information on the uses of nuclear energy and radiological safety and provides for the dissemination of such information by the organisations and institutions concerned.

As regards nuclear third party liability, Ukraine is not a Party to the Vienna Convention. At the national level, the Law on the Uses of Nuclear Energy provides for the nuclear operator's absolute liability in the case of nuclear damage, the sole exceptions to this principle being *force majeure*, armed conflicts or civil war. This Law, however, does not impose upon the operator exclusive liability, nor does it fix the amount of the operator's liability.

The purpose of the Law of the Ukraine on Radioactive Waste Management (No. 256/95) is to protect man and the environment against the hazards of radioactive waste. It establishes the basic principles governing State policy in the management of such waste. In particular, it contains provisions dealing with storage operations and with the setting up of a special public fund to finance the cost of the radioactive waste management programme.

Storage operations are subject to prior licensing and are financed from the special public fund. The fund is constituted according to a procedure decided by the Government. In case of an accident due to the waste, its owner is held liable and must eliminate the source and the consequences of the resulting damage. Furthermore, residents near a radioactive waste repository are entitled to compensation.

Finally, by virtue of Parliamentary Resolution No. 148 dated 26 April 1995, the Council of Ministers is authorised to deliver to foreign corporations who are suppliers of equipment and services for nuclear installations situated in Ukraine guarantees of exemption from nuclear third party liability for damages caused by a nuclear accident occurring within the jurisdiction of Ukraine.

As regards actual regulations, the following should be noted: the Presidential Decree of 28 December 1993 on the physical protection of materials and nuclear installations, the Decision of the Council of Ministers of 27 January 1993 on the transport of radioactive substances, the Decision of the Council of Ministers of 12 April 1992 on the fuel cycle, and finally, the Decision of the Council of Ministers of 11 August 1995 establishing a State agency to be responsible for the physical protection of nuclear materials and installations.

Added to these are various temporary regulations dealing with licensing procedures for the management of radioactive waste (1993), for the transport of radioactive substances (1994), for the extraction of radioactive minerals and for the production and utilisation of radioactive sources (1994). Furthermore, there are several security Codes, inherited from the former Soviet Union, which deal with the following matters:

- radiological security (NRB-76/87);
- the safety of nuclear plants (OPB-88 and PBJ RU-89);
- physical protection in the course of transport (OPB-83);
- protection against radioactive substances and sources (OSP-72/87); and
- health protection relative to radioactive waste management (SPORO-85)

Among other legislation, one can refer to the Law of 1991 on protection of the environment, the Law of 1992 on air quality, the Law of 1994 on the protection of public health, the Civil Code, the Penal Code, the Administrative Code and the Land Use Code.

Draft Legislation and Regulations

Draft legislation on radiation protection exists, as does a draft Bill on the ratification of the Nuclear Safety Convention.

Other draft legislation is underway in the following areas:

- an amendment to the 1995 Law on the Uses of Nuclear Energy;
- Licensing of activities using nuclear energy and ionising radiation sources;
- import/export of nuclear installations, equipment, technology, nuclear materials;
- transport of radioactive material;
- physical protection of nuclear material, nuclear installations and radioactive waste;
- uranium ore mining and milling.

International Conventions

- **Nuclear Third Party Liability**
 - Ukraine is a Party to the Vienna Convention (accession on 20 September 1996)
- **Other Conventions**
 - Convention on Early Notification of a Nuclear Accident, ratified on 26 January 1987;
 - Convention on Assistance in Case of a Nuclear Accident or Radiological Emergency, ratified on 26 January 1987;
 - Convention on the Physical Protection of Nuclear Material, acceded to on 6 July 1993;
 - Treaty on the Non-Proliferation of Nuclear Weapons, acceded to on 5 December 1994.

