

Nuclear Legislation in **OECD and NEA Countries**

Regulatory and Institutional
Framework for Nuclear Activities



Slovak Republic

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I. General Regulatory Regime

1. Introduction

On 1 January 1993, the former Czechoslovakia was divided into the Slovak Republic and the Czech Republic. To ensure a smooth transition of legal regimes, it was agreed that all acts, regulations and decisions, *inter alia*, in the field of nuclear energy and ionising radiation, would continue to apply until subsequent legislation was enacted, provided that such laws were consistent with the Constitution of the Slovak Republic. On 1 April 1998, the Parliament adopted the 1998 Atomic Act.¹ The 1998 Atomic Act came into force on 1 July 1998, providing a comprehensive framework for the regulation of nuclear activities in the Slovak Republic. It was supported by a body of 14 implementing regulations, covering the area of the peaceful use of nuclear energy. With regard to the accession of the Slovak Republic to the European Union (EU) in 2004, the new 2004 Atomic Act² was adopted and entered into force on 1 December 2004. The 2004 Atomic Act has taken into account not only changes to EU law in the areas of nuclear material accountancy, record-keeping and control, and transport of radioactive materials through the European Community and outside the European Community, but also some other important issues, e.g. permits for suppliers that were cancelled due to the principle of the operator's primary responsibility for nuclear safety, increased third party liability limits for nuclear damages for operators of nuclear installations and elaboration of administrative provisions. Since coming into force, the 2004 Atomic Act has been amended numerous times. The 2004 Atomic Act was complemented by a set of 13 regulations issued by the Nuclear Regulatory Authority. These regulations have been amended, supplemented or replaced by new regulations. These regulations enact more detailed provisions focusing on specific areas relating to the use of nuclear energy, such as detailed requirements for nuclear safety, periodic safety reviews, management of radioactive waste and spent fuel, shipment of radioactive waste and spent fuel, record-keeping and control over nuclear materials, training of nuclear installation personnel, emergency preparedness, and operational events at nuclear installations and during the shipments of radioactive materials. An overview of legislation and regulations in the Slovak Republic can be found online.³

In the former Czechoslovakia, the principal authority regulating nuclear activities was the Czechoslovak Atomic Energy Commission (Československá komisia pre atómovú energiu – CSAEC). Its successor in the Slovak Republic is the Nuclear Regulatory Authority of the Slovak Republic (Úrad jadrového dozoru Slovenskej republiky – UJD). The competency and mission of the UJD are set out in an act adopted on 12 December 2001 on the organisation of government activities and central state administration.⁴ The Act specifies the UJD's independent status from any central body with respect to nuclear safety matters. Further detailed provisions on UJD's competencies as a nuclear regulator are established in Section 4 of the 2004 Atomic Act.

¹ Act No. 130/1998 Coll. on the peaceful use of nuclear energy (1998 Atomic Act).

² Act No. 541/2004 Coll. on peaceful use of nuclear energy and on alterations of and amendments to some other acts (2004 Atomic Act).

³ UJD (2020), "Laws and Rules in the Area of Nuclear Safety", [www.ujd.gov.sk/ujd/www1.nsf/\\$All/FC7EF455E1538E8BC1257CB300456D11](http://www.ujd.gov.sk/ujd/www1.nsf/$All/FC7EF455E1538E8BC1257CB300456D11) (accessed 16 Mar. 2020).

⁴ Act No. 575/2001 Coll. on organisation of government activities and of central state administration, as amended (Act on Organisation).

The Slovak Republic is heavily dependent on external primary energy resources, importing more than 80% of its needs – in particular oil, gas and nuclear fuel – from the Russian Federation. This makes the efficient generation of electrical power crucially important. In 2018, 54.4% of the total electricity generated in the Slovak Republic originated from nuclear energy.⁵

The Slovak Republic has two sites with nuclear power plants (NPPs) located at Bohunice and Mochovce. At the Bohunice site, there are five nuclear reactors. The Bohunice V1 NPP, operated by the state-owned company JAVYS,⁶ has two VVER 440 (model V230) reactors that were shut down in 2006 and 2008 respectively, due to commitments adopted in the 2004 Treaty on Accession of the Slovak Republic to the European Union.⁷ Two reactors at the Bohunice V1 NPP are under decommissioning licences as of July 2011. The Bohunice V2 NPP operated by Slovenské elektrárne (66% of whose shares are owned by Slovak Power Holding BV (SPH)⁸ and 34% of shares are owned by the state) has two VVER 440 (model V213) reactors that are in operation. The Bohunice A1 NPP has one model KS-150 unit with a total electricity output of 143 MW. This unit is now in the second phase of decommissioning, following an operational accident in 1977.

At Mochovce, there is one NPP operated by Slovenské elektrárne with two reactors in operation. These two VVER 440 model (V213 type) reactors have a generating capacity of 440 MW each and were commissioned in 1998 and 2000. There are another two units under construction at the Mochovce NPP. In November 2008, the operator declared the reactivation of construction work at the Mochovce site after its interruption in the early 1990s, when all buildings and installations were preserved. Slovenské elektrárne has had a valid construction permit for the two units at the Mochovce site since 1986.

There are also three radioactive waste treatment facilities and an interim spent fuel storage facility at the Bohunice site, as well as a radioactive waste disposal facility at the Mochovce site. A near-surface repository for low-level and medium-level waste was licensed and put

⁵ NEA (2019), *Nuclear Energy Data*, OECD Publishing, Paris, p. 22; see also the Foratom website providing a map with real time data per country on the different sources of electricity indicating a 56.88% share of nuclear as of 19 March 2020, available at: www.foratom.org/project/sources-of-electricity-map/.

⁶ Jadrová a vyradovacia spoločnosť (JAVYS), the Slovak Republic's Nuclear and Decommissioning Company.

⁷ Treaty between the Kingdom of Belgium, the Kingdom of Denmark, the Federal Republic of Germany, the Hellenic Republic, the Kingdom of Spain, the French Republic, Ireland, the Italian Republic, the Grand Duchy of Luxembourg, the Kingdom of the Netherlands, the Republic of Austria, the Portuguese Republic, the Republic of Finland, the Kingdom of Sweden, the United Kingdom of Great Britain and Northern Ireland (Member States of the European Union) and the Czech Republic, the Republic of Estonia, the Republic of Cyprus, the Republic of Latvia, the Republic of Lithuania, the Republic of Hungary, the Republic of Malta, the Republic of Poland, the Republic of Slovenia, the Slovak Republic, concerning the accession of the Czech Republic, the Republic of Estonia, the Republic of Cyprus, the Republic of Latvia, the Republic of Lithuania, the Republic of Hungary, the Republic of Malta, the Republic of Poland, the Republic of Slovenia and the Slovak Republic to the European Union, *Official Journal of the European Union* (OJ) L 236 (23 September 2003), p. 17.

⁸ Slovak Power Holding BV (SPH) is co-owned by Ente Nazionale per l'Energia Elettrica (ENEL – the Italian National Agency for Electricity) (50%) and Energetický a průmyslový holding (EPH – Czech electricity company) (50%).

into operation on a trial basis. The construction of a disposal facility for high-level waste and spent fuel in deep geological formations is planned.

2. Mining regime

There have been no uranium mining activities in the Slovak Republic since 1990. The mining legislation that formerly applied to the mining of uranium is still in force and would be applicable if uranium mining were to begin again. In recent years, there have been several companies interested in uranium mining that have undertaken exploration activities in certain locations. The uranium mining legislation consists of the following laws:

- Article 4 of the Constitution of the Slovak Republic, which provides that mineral resources (including uranium resources) are owned exclusively by the state;
- the Mining Act of 1 July 1988, which classifies radioactive minerals as “exclusive minerals”.⁹ Exploration or mining activities in the deposits of exclusive minerals may be carried out by any person or private company, in compliance with the rights and obligations established by the Mining Act and the Act on Mining Activities of 1 July 1988.¹⁰ The competent authorities involved in the licensing of mining activities are the Ministry of Economy, the District Mining Authority and the Ministry of Environment. According to Section 34(1)(b) of the Mining Act, disposal of radioactive waste beneath the surface (“repositories”) is a particular intervention into the crust of the Earth for which the provisions of the mining regime shall be applied accordingly;
- Section 11 of the Act on Mining Activities, which establishes requirements for an application for granting a licence for the disposal of radioactive waste in repositories by the District Mining Authority;
- Sections 6(1) and (2)(e) and Annexes 9 and 10 of Regulation No. 89/1988 Coll. on the rational use of exclusive minerals deposits and on licensing and notification of mining activities, as amended.

3. Radioactive substances, nuclear fuel and equipment

Section 11(1) of the 2004 Atomic Act refers to the definition of “nuclear materials” provided by the Euratom Treaty¹¹ and the Commission Regulation on the application of Euratom safeguards.¹² Nuclear materials thus include the following:

- “source materials”: natural uranium, depleted uranium, thorium and any of these materials in the form of metal, alloy, chemical compounds or concentrates and any other substance containing one or more of the aforementioned substances in a specified minimum quantity;

⁹ Act No. 44/1988 Coll. on protection and use of mineral resources, as amended (Mining Act).

¹⁰ Act No. 51/1988 Coll. on mining activity, explosives and the state mining authorities, as amended (Act on Mining Activities).

¹¹ Consolidated Version of the Treaty establishing the European Atomic Energy Community (Euratom), OJ C 327 (26 October 2012), p. 1 (Euratom Treaty).

¹² Commission Regulation (Euratom) No 302/2005 of 8 February 2005 on the application of Euratom safeguards, OJ L 54 (28 February 2005), as amended, p. 1.

- “special fissile materials”: plutonium 239, uranium 233, uranium enriched in 235 or 233 isotopes and any substances containing one or more of the aforementioned isotopes in a specified minimum quantity.

Nuclear materials may only be managed and used on the basis of an authorisation (licence) issued by the UJD.¹³ The authorisation (licence) has no time limitation. Applicants for a licence are required to demonstrate that they meet not only the general requirements for any authorisation – including the capacity to enter into legal arrangements, an unblemished reputation, evidence of functional technical equipment for the requested activity and adequate permanent staff with the required professional competency – but also the specific conditions for the authorisation of management of nuclear materials pursuant to Section 7(3) of the 2004 Atomic Act. These conditions include the approved documentation of a quality assurance system for the licensed activity, an approved physical protection plan, an approved on-site emergency plan and an off-site emergency plan or emergency transport order. An authorisation (licence) for the management of nuclear materials inside or outside of a nuclear installation is granted by the UJD.

When the owner of the nuclear material is unknown, the licence for management of the nuclear material has expired or the nuclear material was obtained in contravention of the relevant provisions of the 2004 Atomic Act, the UJD shall designate another licensee to take the necessary measures for such nuclear material. Under such circumstances, the UJD will decide whether the National Nuclear Fund will reimburse the expenditures incurred by the new designated licensee (see *infra*, Section 7 on “Radioactive waste management”).

The licensee for the management of nuclear material – which includes the production, processing, reprocessing, transmutation, handling, use or storage thereof – is responsible for:

- maintaining records of nuclear materials, operational records and submitting reports on inventory changes to the UJD;
- providing the UJD with copies of safeguards documentation pursuant to Chapter 7 of the Euratom Treaty;
- appointing employees with special qualifications who shall be responsible for keeping records, including operating records, as well as reports on inventory changes and notifying the UJD and the European Commission of their contact details;
- keeping the UJD and the European Commission informed of non-compliance with the safeguards obligations pursuant to the Chapter 7 of the Euratom Treaty;
- transferring responsibility for the management of nuclear materials only to another licensee for the management thereof;
- granting UJD inspectors, persons invited by the UJD, as well as authorised persons from international organisations the ability to carry out inspections in accordance with international commitments and access to the premises and

¹³ 2004 Atomic Act, *supra* note 2, Section 5(3)(g).

places at nuclear installations in which nuclear materials are located and rendering them the necessary assistance.

Under Section 12 of the 2004 Atomic Act, any person who identifies the loss or theft of nuclear material or other radioactive material; or suspects or has knowledge of damage to nuclear material or other radioactive material, to monitoring equipment or to seals controlling the status and flows of nuclear materials, shall notify without delay the UJD, the Police or Chief Hygienist (Chief Public Health Officer), and the European Commission.

Details concerning requirements for the management of nuclear materials, operating records keeping, the preparation and submission of reports on inventory changes and the method of notification and reporting of events connected with management, record-keeping and control of nuclear materials are laid down by two regulations of the UJD.¹⁴

The UJD also grants licences for the import and export of nuclear material and the export of special material and equipment (also known as “dual-use goods”). In these matters, the Ministry of Economy is the primary licensing authority.

4. Nuclear installations

a) Licensing and inspection, including nuclear safety

i) Licensing

Under Section 2(f) of the 2004 Atomic Act, “nuclear installation” means a set of civil structures and the necessary technological equipment, in a configuration specified by the design, intended for:

- generation of electric energy or research in the field of nuclear energy, part of which is a nuclear reactor or nuclear reactors, which will use, is using or had been using a controlled fission chain reaction;
- management of nuclear material in quantities greater than one effective kilogram, except in areas for storage of containers and shields, in which nuclear material is used as material for radioactive sources, facilities for treatment of uranium ore and storage of uranium concentrate;
- spent nuclear fuel management;
- radioactive waste management; or
- uranium enrichment or production of nuclear fuel.

¹⁴ Regulation of the UJD No. 30/2012 Coll. laying down details of requirements for the handling of nuclear materials, nuclear waste and spent nuclear fuel, as amended by Regulation No. 101/2016 Coll. and Regulation of the UJD No. 54/2006 Coll. on record-keeping and control of nuclear materials and on notification of selected activities.

The general principle of peaceful use of nuclear energy under the 2004 Atomic Act is that any use of nuclear energy requires an authorisation (licence) issued by the UJD.¹⁵ In accordance with the 2004 Atomic Act, the UJD is responsible for issuing licences for:

- siting, construction, commissioning and operation of nuclear installations and their decommissioning stages;
- closure of a repository for radioactive waste and spent fuel;
- institutional control and management of nuclear material within or outside a nuclear installation;
- management of radioactive waste or spent fuel;
- imports and exports of nuclear material;
- exports of dual-use goods in the nuclear field;
- shipment of radioactive material; and
- professional training of licensees' employees at specialised institutions.

The general requirements of application for a licence, the content of applications and the UJD's decision-making procedures with respect to a licence are set out in Sections 6, 7 and 8 of the 2004 Atomic Act.

The siting of a nuclear installation is governed by the general provisions of the Construction Code¹⁶ and by the special provisions of the 2004 Atomic Act (Section 17). During the siting stage, the District Construction Authority is the licensing body, although the UJD plays a role with the other authorities involved in the proceedings. Permission for the siting of a nuclear installation must be issued by the UJD and based upon a statement of the European Commission.¹⁷

Once the siting of the nuclear installation has been approved, the UJD serves as the main building authority for granting the building permit of the nuclear installation.¹⁸ General provisions on building permit proceedings are laid down in the Construction Code and in Section 18 of the 2004 Atomic Act. The construction of a nuclear installation may only be carried out by the holder of a valid building permit. The holder of a building permit is referred to as the "builder". The UJD grants a building permit for the construction of a nuclear installation on the basis of the builder's written application with the required documentation attached pursuant to the Construction Code and Annex 1 of the 2004 Atomic Act. Such documentation includes the preliminary safety report, design documentation, a preliminary plan for management of radioactive waste and spent fuel, categorisation of classified equipment into safety classes, a preliminary plan for physical

¹⁵ 2004 Atomic Act, *supra* note 2, Section 3(6).

¹⁶ Implemented by Act No. 50/1976 Coll. on Territorial planning and construction order, as amended (Construction Act).

¹⁷ Euratom Treaty, *supra* note 11, Article 41.

¹⁸ This permit is variously known as a "construction licence" or "construction permit" or "permission to build" or "building permission".

protection, quality system documentation, a preliminary on-site emergency plan, the preliminary limits and conditions of safe operations, a pre-operation preliminary inspection programme for the nuclear installation, and a preliminary estimate of the area of the emergency planning zone for the proposed nuclear installation.

Concerning the construction of a nuclear installation, the Regional Civil Construction Office issues a decision on the proposed site plan for the nuclear installation based upon the approval granted by UJD and statements from other authorities such as the Public Health Authority and the Labour Inspection Authority. During the site plan development and the construction process, or when granting a licence for any significant change to an existing nuclear installation, an environmental impact assessment (EIA) must be undertaken in accordance with the Act on Environmental Impact Assessment,¹⁹ which provides for public participation, transparency and free access to information during the decision-making process.

The UJD issues construction permissions for nuclear installations as well as official construction approvals within its competence as a construction authority. The UJD is also the licensing authority for the commissioning, operation and decommissioning of nuclear installations, including modifications thereto and closure of a repository for radioactive waste and spent fuel. The UJD applies its competence as a construction authority and as a nuclear safety authority simultaneously. Its decisions are based on partial decisions made by the UJD itself as well as on statements made by authorities competent in radiological protection, labour safety inspection, fire protection and civil protection. The detailed licensing procedure and requirements are laid down by:

- the Civil Construction Code;²⁰
- the 2004 Atomic Act;
- the Regulation on nuclear safety requirements;²¹
- the Act on Environmental Impact Assessment;²²
- the Regulation implementing some provisions of the Construction Code;²³
- the Regulation on territorial planning and territorial planning documentation;²⁴

¹⁹ Act No. 24/2006 Coll. on environmental impact assessment and amending some other laws, as amended (Act on Environmental Impact Assessment).

²⁰ Instituted by the Construction Act, *supra* note 16.

²¹ Regulation of the UJD No. 430/2011 Coll. on nuclear safety requirements as amended by Regulation No. 103/2016 Coll.

²² Act on Environmental Impact Assessment, *supra* note 19.

²³ Regulation of the Ministry of Environment of the Slovak Republic No. 453/2000 Coll. implementing certain provisions of the Construction Act.

²⁴ Regulation of the Ministry of Environment of the Slovak Republic No. 55/2001 Coll. on territorial planning materials and territorial planning documentation.

- the Act on Radiation Protection and on amendments and supplements to certain acts;²⁵
- the Act on Health Safety and Protection of the Workers;²⁶
- the Act on Labour Inspection;²⁷ and
- the Regulation on the safety measures related to the electrical and gas equipment.²⁸

Only the holder of an appropriate authorisation (licence) can commission and operate a nuclear installation. In order to obtain such an authorisation, the operator must submit an application with the safety documentation required in Annex 1(C) of the 2004 Atomic Act. This safety documentation falls into two categories: one set that is submitted to the UJD for prior approval and one set that is later submitted to the UJD for review.

Commissioning is usually divided into several phases, each requiring approval. The UJD grants permission to advance to the next phase of the commissioning process after having reviewed the evaluation report of the preceding phase. The operation of a nuclear installation is divided into trial operation and operation phases. The UJD issues a permit for trial operation upon the basis of a written application with an evaluation report of the nuclear installation commissioning attached. A permit for trial operation is part of the permit for temporary use of a nuclear installation pursuant to the Civil Construction Code. Authorisation for operation is granted upon a written application with safety documentation attached, in accordance with Annex 1(C) of the 2004 Atomic Act, and a subsequent affirmative evaluation of the trial operation pursuant to the Civil Construction Code, as part of the official construction approval and decision-making proceedings.

The UJD may make any of its decisions subject to the fulfilment of conditions relating to nuclear safety, physical protection, quality assurance and/or emergency preparedness. The UJD may modify such conditions when the circumstances under which the original decision was issued change and/or when new scientific and technological knowledge becomes available, or upon the justified application of the licensed operator. The operator must adhere to the terms of the assessed or approved safety documentation and authorisation granted, and any deviations from these terms and conditions are allowed only with the prior permission of the UJD.

The UJD may modify or cancel any licence or authorisation issued to a licensee that violates its obligations under the 2004 Atomic Act, any generally binding regulations or the conditions specified in the licence. The UJD may decide to cancel or modify a licence if the licensee fails to remediate any deficiencies that have been identified within the established deadlines or if the licensee itself applies for cancellation or modification of the licence. A licence extinguishes upon the death of the natural person concerned, upon the date of the

²⁵ Act No. 87/2018 Coll. on Radiation Protection and on amendments and supplements to certain acts.

²⁶ Act No. 124/2006 Coll. on health safety and protection of the workers, as amended.

²⁷ Act No. 125/2006 Coll. on labour inspection, as amended.

²⁸ Regulation of the Ministry of Labour, Social Matters and Family of the Slovak Republic No. 508/2009 Coll. on the Safety measures related to the electrical and gas equipment, as amended.

dissolution of the legal person concerned, upon the expiration of the period for which the licence was issued or upon a UJD decision to cancel the licence. When there is a risk of delay of, or upon a serious occurrence related to nuclear safety, physical protection or emergency preparedness, the UJD may decide to restrict the scope or the validity of the licence, order the licensee to take the necessary measures or order the suspension of the operation of a nuclear installation.

As with the construction of a nuclear installation, in addition to the provisions of the 2004 Atomic Act, there is also the detailed Regulation on nuclear safety requirements to be observed. The UJD issues a licence without time limitation. If there are serious reasons to do so, the UJD may indicate a time limit or technical restrictions for which the licence is issued.²⁹

ii) Inspection

The UJD is empowered under Section 31 of the 2004 Atomic Act to perform state supervision (oversight) of:

- nuclear safety at nuclear installations;
- management of radioactive waste and spent nuclear fuel;
- nuclear materials, special materials and equipment;
- physical protection of nuclear installations; and
- emergency planning.

In carrying out its oversight authority, the UJD is required under the 2004 Atomic Act to:

- conduct inspections of workplaces, operations and facilities at nuclear installations, to determine whether legal obligations are being fulfilled and whether operating limits, conditions and quality assurance systems are being adhered to;
- determine whether obligations arising out of international agreements relating to nuclear safety and the management of nuclear materials and radioactive waste (including spent fuel) are being fulfilled;
- investigate accidents, incidents and selected failures and events during the shipment of radioactive materials at their places of occurrence;
- verify the conduct of obligatory reviews, surveys, revisions, operational checks and tests of classified equipment important to nuclear safety at nuclear installations;
- order the elimination of deficiencies or the implementation of corrective actions related to nuclear safety, physical protection or emergency preparedness;

²⁹ 2004 Atomic Act, *supra* note 2, Section 8(1)(d).

- assess nuclear safety, physical protection and emergency preparedness at nuclear installations independently from their operators;
- evaluate the system of professional training for employees and their professional competence; and
- evaluate the content and practices stipulated by emergency plans.

There is an obligation on the part of the holders of authorisations, or the other persons responsible for handling nuclear materials, to submit for state oversight all materials, documentation, information and expert analysis required. They must also co-operate with the UJD to enable it to carry out such oversight and thereafter apply the results of UJD's findings to their activities.

Inspectors appointed by the UJD must have the required qualifications and must have passed an inspector's examination. During the performance of a state inspection, inspectors are required to prove their identity using the identification card issued by the UJD.

Under the 2004 Atomic Act, an inspector is authorised to:

- enter the premises of authorisation holders at any time and without any restrictions, as well as the premises where nuclear materials, special materials and equipment are kept or where radioactive waste or spent fuel are managed, to carry out inspection activities;
- verify at any time that the licensees' employees with professional competency have adequate knowledge of relevant regulations;
- check the status of emergency preparedness measures and participate in the investigation of operational events, including shipment of radioactive materials;
- carry out inspections, participate in tests and check whether requirements under the 2004 Atomic Act and regulations and conditions laid down in UJD's decisions and inspection protocols are complied with;
- require the submission of relevant documentation, records and other documents necessary for the performance of inspection activities and request copies thereof, as well as the provision of additional information and explanation;
- take samples of materials or media used, in quantities necessary for analysis, or environmental samples;
- use technical means to create photo, video and audio documentation necessary for performance of inspection activities;
- order to keep equipment, workplaces, buildings and structures or their parts in original condition until completion of an investigation, as well as to record their status as of the time of the performance of inspection activities;
- order the measurements, controls, tests and other acts necessary for the performance of inspection activities;

- after negotiation with a licence holder, order measures to eliminate any identified deficiencies within established deadlines; and
- withdraw a licence of special professional competence.

As a means of enforcement, the UJD may impose various penalties for violations under the 2004 Atomic Act.³⁰ The UJD may impose an additional penalty upon the person who failed to remedy violations for which a fine had been imposed previously. Such an additional penalty can be up to twice the amount of the initial fine. Proceedings on the imposition of fines may be opened within one year from the date on which the UJD has identified a violation of responsibilities, but not later than three years after the date on which the violation of responsibilities occurred. The criminal liability of authorisation holders or natural and legal persons, as well as the criminal liability of their employees, is not prejudiced by the imposition of an administrative penalty. The sums received from the imposition of administrative penalties shall be added to the revenues of the National Nuclear Fund³¹ (see also *supra*, Section 4(a)(iii) on “Decommissioning”).

iii) Decommissioning

Under the 2004 Atomic Act, the operator is responsible for the decommissioning of a nuclear installation and must ensure that the necessary financial means are available for this purpose. The Nuclear Fund Act³² and an Ordinance of the Government³³ establish the National Nuclear Fund for the Decommissioning of Nuclear Installations and the Management of Spent Fuel and Radioactive Waste arising from their decommissioning. The Ministry of Economy manages the Fund, which is established by law as a separate legal entity. The National Nuclear Fund’s main bodies are the Board of Trustees, the Board of Supervisors, the Fund Director, the Trustees of Sub-Accounts and the Controller General. The Board of Trustees, which is the National Nuclear Fund’s highest organ, is the Fund’s statutory body. It consists of seven members: the Chairman, two Vice-Chairmen and four Trustees of Sub-Accounts. The Nuclear Fund itself is comprised of several sub-accounts, as follows:

- for decommissioning of each nuclear power reactor at the Bohunice NPP;
- for decommissioning of the nuclear installations in the Mochovce region;
- for decommissioning of new nuclear installations;
- for management of nuclear materials and radioactive waste of unknown origin;

³⁰ 2004 Atomic Act, *supra* note 2, Section 34.

³¹ *Ibid.*, Section 34(11).

³² Act No. 308/2018 Coll. on the National nuclear fund for decommissioning of nuclear facilities and for the management of spent fuel and radioactive waste (Nuclear Fund Act) as amended by Act No. 221/2019 Coll.

³³ Government Ordinance No. 22/2019 Coll. laying down details on the amount of obligatory contribution and payment as well as details on the collection and payment of obligatory contributions to the National Nuclear Fund.

- for research and exploration of a new site for a repository for radioactive waste and spent fuel, and for preparation, design, construction, commissioning and operation and closure of such a repository;
- for institutional control of repositories;
- for storage of spent fuel; and
- for the National Nuclear Fund's operational expenditures.

The Government, upon the proposal of the Ministry of Economy of the Slovak Republic, designates the Chairman and the four members of the Board of Trustees. The first Vice-Chairman is designated upon the proposal of the Ministry of Finance of the Slovak Republic and the second Vice-Chairman upon the proposal of the UJD. Candidates must be chosen from among experts in the field of nuclear energy or nuclear research with a minimum of ten years of relevant experience in construction, management, economics or law.

Prior to beginning work on any phase of decommissioning, the licensee is obliged to submit an updated conceptual plan for decommissioning together with an environmental impact statement.³⁴ Decommissioning may be initiated only upon the basis of the terms stated in the decommissioning authorisation. The issuance of a decommissioning authorisation/licence by the UJD is conditional upon the approval of a written application with safety documentation attached relating to decommissioning activities. If a nuclear installation is planned to be decommissioned in several phases, an authorisation/licence is required for each phase of the process.

The safety documentation for the decommissioning of nuclear installations is governed by a regulation detailing the required documentation for individual decisions relating to nuclear facilities.³⁵

iv) Nuclear Safety

The nuclear safety and quality management systems are dealt with in Part 2 of the Atomic Act. "Nuclear safety" is defined as the technical status and the capability of the nuclear installation or transport equipment, as well as their operating personnel, to prevent the unauthorised release of radioactive substances or ionising radiation to the working environment or to the environment and the ability to prevent events and to mitigate consequences of any such event at a nuclear installation or during the shipment of radioactive materials. The operator (licence holder) is responsible for nuclear safety and must provide adequate funds and human resources to ensure nuclear safety, including the necessary engineering and technical support activities.³⁶

During the construction and commissioning of a nuclear installation and throughout its operating life, the builder and operator must perform comprehensive and systematic evaluations of nuclear safety and take steps to remedy any identified deficiencies. The

³⁴ Pursuant to the Act on Environmental Impact Assessment, *supra* note 19.

³⁵ Regulation of the UJD No. 58/2006 Coll. laying down details on the scope, contents and manner of preparation of documentation for nuclear facilities needed for individual decisions, as amended.

³⁶ 2004 Atomic Act, *supra* note 2, Section 23(1).

frequency and scope of the evaluations are to be set out in regulations issued by the UJD. The operator must ensure that employees' and other persons' exposure to ionising radiation caused by the operation of a nuclear installation is kept below the set limits and at the lowest reasonably achievable level.

In addition to governing the safety aspects of radioactive waste management (see *infra*, Section 7 on "Radioactive waste management"), the regulation detailing the requirements for the provision of physical protection³⁷ also establishes requirements for the safe management of radioactive waste and spent fuel.

The 2004 Atomic Act contains detailed provisions on the professional competency of employees at nuclear installations.³⁸ The same act entitles UJD inspectors to withdraw the licence of special professional competency if certain deficiencies or activities occur.³⁹

Regarding quality assurance, the operator/licence holder is responsible for the establishment of the appropriate organisational structure, procedures and resources to ensure and enhance the quality management system of a nuclear installation.⁴⁰

In addition to the 2004 Atomic Act, there are also diverse regulations issued by the UJD that regulate in detail the following issues:

- nuclear safety requirements;⁴¹
- quality management system;⁴²
- professional competence;⁴³ and
- requirements for the management of nuclear materials, radioactive waste and spent fuel.⁴⁴

At the international level, the Slovak Republic ratified the Convention on Nuclear Safety⁴⁵ on 7 March 1995.

³⁷ Regulation No. 51/2006 Coll. on details concerning requirements for provision of physical protection (Regulation on requirements for provisions of physical protection); Regulation of the UJD No. 30/2012 Coll., as amended by Regulation No. 101/2016 Coll., *supra* note 14.

³⁸ 2004 Atomic Act, *supra* note 2, Section 24.

³⁹ *Ibid.*, Section 31(11j).

⁴⁰ *Ibid.*, Section 25(1).

⁴¹ Regulation of the UJD No. 430/2011 Coll., as amended by Regulation No. 103/2016 Coll., *supra* note 21.

⁴² Regulation of the UJD No. 431/2011 Coll. on a quality management system, as amended by Regulation No. 104/2016 Coll.

⁴³ Regulation of the UJD No. 52/2006 Coll. on professional qualification, as amended.

⁴⁴ Regulation of the UJD No. 30/2012 Coll., as amended by Regulation No. 101/2016 Coll., *supra* note 14.

⁴⁵ Convention on Nuclear Safety (1994), IAEA Doc. INFCIRC/449, 1963 UNTS 293, entered into force 24 October 1996 (CNS).

b) Emergency response

The emergency response system is governed by the 2004 Atomic Act and its implementing regulations.⁴⁶ Two types of events are discussed in the 2004 Atomic Act: operational events at a nuclear installation and events during the transport of radioactive materials. Under the terms of the 2004 Atomic Act, an “operational event at a nuclear installation” means an event during which there was a threat to or breach of nuclear safety during the commissioning of a nuclear installation, during its operation, during the decommissioning phase or during the closure of the repository.⁴⁷

An “event during transport” means an event that occurred during the transport of radioactive materials that caused a non-compliance with the requirements for nuclear safety during transport of radioactive materials.⁴⁸ Operational events and events during the shipment are divided into:

- failures that caused:
 - a threat to nuclear safety without direct threat to the fulfilment of safety functions;
 - a disruption of safety barriers or other safety measures without direct consequences;
 - entering into limits and conditions (tech specs) for safe operation and safe decommissioning;
 - a breach of the limits and conditions (tech specs) for safe operation and safe decommissioning without direct consequences on the fulfilment of safety functions;
 - an actuation of safety systems or their actuation due to real causes, but without direct consequences;
 - a breach of technical conditions or transport regulations during transport without direct consequences;
 - other disruption of equipment reliability requiring corrective action to mitigate consequences; or
 - a release of radioactive substances or ionising radiation not exceeding the radiation limits.
- incidents that caused:
 - a threat to or disturbance of compliance with safety requirements;

⁴⁶ Regulation of the UJD No. 55/2006 Coll. on emergency planning in the event of a nuclear incident or accident, as amended and Regulation of the UJD No. 48/2006 Coll. on notification of operational events and events during the shipment and on identification of their causes, as amended by Regulation of the UJD No. 32/2012 Coll.

⁴⁷ 2004 Atomic Act, *supra* note 2, Section 27(1).

⁴⁸ *Ibid.*, Section 27(2).

- a failure of the safety systems or an actuation of safety systems due to real causes, which requires actions to remove the consequences;
 - a serious disruption or failure of safety barriers; or
 - a release of radioactive substances or ionising radiation exceeding the radiation limits.
- accidents that caused a release of radioactive substances requiring actions to protect the population.

An operator (licence holder) is required to implement preventive and corrective measures in a timely manner and to eliminate, without delay, any conditions that might jeopardise nuclear safety or human life or health. An operator (licence holder) is also required to notify the UJD of any deficiencies identified during operation, maintenance or control activities that may result in the events described in Section 27(3) of the 2004 Atomic Act, as well as the Ministry of the Interior of the Slovak Republic, in case of accidents or emergency situations. Furthermore, the operator (licence holder) is obliged to identify the causes of such events and take corrective actions or remedial measures; take initiatives to prevent their recurrence; and inform the public of any incident or accident that occurred as well as any measures to be taken to protect health, and on any activities that need to be carried out in case of such incident or accident. Details concerning the notification of operational events and events during the shipment and the investigation of their causes are laid down by UJD regulation.⁴⁹

In the event of a hazardous condition or if serious circumstances arise that are significant for nuclear safety, physical protection or emergency preparedness, the UJD may order the licensee to take certain measures or to suspend the operation of a nuclear installation.

Under the Act, the UJD investigates *in situ* the status, causes and consequences of selected failures, incidents and accidents at nuclear installations and events during the shipment of radioactive material.

“Emergency planning”, as defined in the 2004 Atomic Act, means a set of measures and procedures to identify and cope with incidents and accidents at nuclear installations and to identify, mitigate and eliminate the consequences of a release of radioactive substances into the environment during the management of radioactive materials, radioactive waste or spent fuel and during the shipment of radioactive materials.⁵⁰

An emergency plan consists of a set of technical and organisational measures required to bring events under control or to mitigate their consequences. Emergency plans are distinguished as follows:

- preliminary on-site emergency plan, which contains planned measures on the site of a nuclear installation during its construction;
- on-site emergency plan, which contains planned measures to be taken on the site of a nuclear installation or several nuclear installations, operated by a single authorisation holder, and links to the off-site emergency plan;

⁴⁹ Regulation of the UJD No. 48/2006 Coll., as amended by Regulation of the UJD No. 32/2012 Coll., *supra* note 46.

⁵⁰ 2004 Atomic Act, *supra* note 2, Section 28(1).

- off-site emergency plan, which contains measures for the protection of the population within the emergency planning zone during the release of radioactive substances into the environment, as well as links to the on-site emergency plan; and
- emergency transport order, which contains measures to be taken in case of an incident or of an accident during the shipment of nuclear materials.

The operator is responsible for the preparation of the on-site emergency plan, which must be submitted to the UJD for approval after being reviewed by the Ministry of Health of the Slovak Republic at least eight months prior to the scheduled start of the commissioning of a nuclear installation. There is an obligation to re-submit the on-site emergency plan every five years for re-approval. Regional offices must submit to the UJD the off-site emergency plans of the areas within the emergency planning zone for review at least eight months prior to the scheduled start of the commissioning of a nuclear installation and subsequently every five years for review. Those plans must be approved by the Ministry of Interior of the Slovak Republic, which is responsible for civil protection during radiological accidents and for assistance in the event of a nuclear accident or radiological emergency.⁵¹

Prior to the commissioning of a nuclear installation, emergency plans must be practised. During the operation of a nuclear installation, certain parts of the emergency plans must be practised and evaluated at set intervals.

There is a general obligation on the part of operators (licence holders) and state authorities to make available to the UJD data required to evaluate and to predict accidents. The data might consist of technological data from the nuclear installation, radiation monitoring data, meteorological data and any other data requested by the UJD.

Details on the content of the on-site and off-site emergency plans and emergency transport order are set out in the UJD Regulation on emergency planning, as amended. There are three emergency levels: alert, site area emergency and general emergency,⁵² which call for different measures to be taken depending on the emergency level.⁵³ Measures include notification of the authorities concerned, public warnings, and public protection measures such as issuing recommendations to shelter indoors or to evacuate and continuous monitoring of the radiological situation.

At the international level, the Slovak Republic succeeded to the Convention on Early Notification of a Nuclear Accident⁵⁴ and to the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency⁵⁵ on 10 February 1993.

⁵¹ Act No. 42/1994 on the Civil Protection of the Public, as amended.

⁵² Regulation of the UJD No. 55/2006 Coll., as amended, *supra* note 46, Section 5.

⁵³ *Ibid.*, Sections 14-16.

⁵⁴ Convention on Early Notification of a Nuclear Accident (1986), IAEA Doc. INFCIRC/335, 1439 UNTS 276, entered into force 27 October 1986 (Early Notification Convention).

⁵⁵ Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency (1986), IAEA Doc. INFCIRC/336, 1457 UNTS 134, entered into force 26 February 1987 (Assistance Convention).

5. Trade in nuclear materials and equipment

A special licence is required for the import and export of nuclear materials and the export of special materials and equipment. The Ministry of Economy of the Slovak Republic issues licences for dealing with dual-use goods and technologies based upon the authorisation of the authority concerned.⁵⁶ For dual-use goods and technologies that are used in the nuclear industry, the UJD is the authority empowered to grant the authorisation. The application for authorisation of import or export of nuclear material must be supported by the European Commission's approval of the relevant business contract, and, when nuclear material is imported, the applicant or the person to whom the nuclear material in question is to be imported must hold an authorisation for the management of nuclear material.⁵⁷ Sections 12 and 13 of the 2004 Atomic Act cover the requirements relating to the management of nuclear materials, including production, processing, reprocessing, transmutation, handling, use and storage and the record-keeping system and control of nuclear materials.

6. Radiological protection

Act No. 87/2018 Coll. on Radiation Protection and on amendment and supplement of certain Acts⁵⁸ lays down the basic provisions regarding radiological protection, based on the International Commission for Radiological Protection's (ICRP) recommendations and the relevant International Atomic Energy Agency (IAEA) standards. A set of regulations dealing with detailed requirements for radiological protection of workers, the public and the environment also exists (use of ionising radiation sources). As a matter of general principle, the main objective of radiological protection is to keep the radiological exposure related to the use of ionising radiation as low as reasonably achievable. This objective is also known as the "ALARA principle".

The issue of radiological protection is addressed in various parts of the Act on Radiation Protection and on amendment and supplement of certain Acts. The Act establishes licensing requirements relating to activities that could lead to exposure and activities that require protection from radiation exposure. With respect to the latter, the licensee must ensure that the exposure of employees and other persons to ionising radiation is kept below the set limits during all operational states and activities and generally at the lowest reasonably achievable level. Detailed provisions are laid down in the regulation issued by the Ministry of Health of the Slovak Republic on ensuring radiological protection.⁵⁹ The Act on Radiation Protection and on amendment and supplement of certain Acts and its implementing regulations fully implements Directive 2013/59/Euratom.⁶⁰ Also, the provisions of already

⁵⁶ Act No. 39/2011 Coll. on dual-use goods.

⁵⁷ 2004 Atomic Act, *supra* note 2, Section 7(15).

⁵⁸ Act No. 87/2018 Coll., as amended, *supra* note 25.

⁵⁹ Regulation of the Slovak Ministry of Health No. 99/2018 Coll. on ensuring of the protection against radiation.

⁶⁰ Council Directive 2013/59/Euratom of 5 December 2013 laying down basic safety standards for protection against the dangers arising from exposure to ionising radiation, and repealing Directives 89/618/Euratom, 90/641/Euratom, 96/29/Euratom, 97/43/Euratom and 2003/122/Euratom, OJ L 13 (17 Jan. 2014) (Euratom Basic Safety Standards).

transposed Council Directive 2013/51/Euratom⁶¹ were included into this new legal provision on protection against the radiation exposure.

This Act was executed by subsequent secondary legislation:

- Regulation of the Ministry of Health of the Slovak Republic No. 96/2018 Coll. on establishment of details on activities of radiation monitoring network;
- Regulation of the Ministry of Health of the Slovak Republic No. 98/2018 Coll. on establishment of details on limitation of exposure of workers and inhabitants to the ionising radiation;
- Regulation of the Ministry of Health of the Slovak Republic No. 99/2018 Coll. on ensuring of the protection against radiation;
- Regulation of the Ministry of Health of the Slovak Republic No. 100/2018 Coll. on the limitation of exposure of inhabitants to the ionising radiation from drinking water, from natural mineral water and spring water; and
- Regulation of the Ministry of Health of the Slovak Republic No. 101/2018 Coll. on details of ensuring the protection against ionising radiation during medical treatment as amended by Regulation No. 340/2019 Coll.

Generally, the Ministry of Health of the Slovak Republic is the regulatory authority responsible for the oversight of radiological protection measures at nuclear installations, medical installations and other workplaces where ionising radiation is used. The Ministry of Health of the Slovak Republic delegates responsibility for such matters to the Public Health Authority of the Slovak Republic.

The Slovak Republic acceded to the 1960 Convention concerning the Protection of Workers against Ionising Radiation on 1 January 1993. As an EU member state, the applicable EU regulations, directives and decisions dealing with radiological protection are fully implemented at the national level, including the Euratom Basic Safety Standards.

7. Radioactive waste management

Under the 2004 Atomic Act, the safe disposal of radioactive waste and spent fuel within the territory of the Slovak Republic is the responsibility of a legal person appointed for this purpose by the Ministry of Economy of the Slovak Republic. The designated legal person must be a holder of a licence for the operation of a repository and the Slovak Republic must hold a 100% stake in that entity. At the same time, this entity may not be the holder of a licence for the operation of a nuclear facility for generation of electric energy or for research.⁶² A radioactive waste repository may be located only on land owned by the Slovak Republic.⁶³ With respect to supervision of radioactive waste management, the

⁶¹ Council Directive 2013/51/Euratom of 22 October 2013 laying down requirements for the protection of the health of the general public with regard to radioactive substances in water intended for human consumption, OJ L 296 (7 Nov. 2013).

⁶² 2004 Atomic Act, *supra* note 2, Section 3(11).

⁶³ *Ibid.*, Section 6(2)(d).

responsibilities are divided between the UJD and the Ministry of Health of the Slovak Republic.

The UJD is responsible for the supervision of the management and transport of radioactive waste originating from nuclear installations. It is also responsible for the transport of institutional radioactive waste (i.e. radioactive waste originating from medical or industrial use) from its place of treatment to the repository and to its disposal in repositories.

The Ministry of Health of the Slovak Republic (and its subordinated Public Health Authority of the Slovak Republic) is the authority responsible for supervising the management of institutional radioactive waste (originating from medical or industrial use).⁶⁴

The regulation on detailed requirements for the management of nuclear materials, radioactive waste and spent fuel⁶⁵ lays down the basic technical and organisational requirements for ensuring nuclear safety and the prevention of releases of radioactivity into the environment in the course of radioactive waste management. These regulations also set out the basic safety requirements for all the steps in the radioactive waste management process, including collection, sorting, storage, treatment, conditioning, handling and disposal of radioactive waste.

"Radioactive waste" is defined under the 2004 Atomic Act as any unusable radioactive material in gaseous, liquid or solid form, which due to the presence of radionuclides or due to the level of its contamination with radionuclides cannot be released to the environment.⁶⁶ Such levels are laid down by the Act on Radiation Protection and on amendment and supplement of certain Acts.⁶⁷ "Spent nuclear fuel" means nuclear fuel that has been irradiated in an active zone of a nuclear reactor and has been permanently removed from it; spent fuel may be considered as a usable resource that may be reprocessed, or regarded as radioactive waste and destined for disposal.⁶⁸

The originator of radioactive waste shall manage its waste in a manner such that the quantity and activity of such waste are kept to the lowest reasonably achievable level.⁶⁹

Authorisations for the management of radioactive waste and spent nuclear fuel are issued by the UJD.⁷⁰ "Management of radioactive waste" means the collection, sorting, storage, treatment, conditioning, handling and disposal of radioactive waste from a nuclear installation, institutional radioactive waste, orphan sources, radioactive waste of unknown origin, and/or disused sources, if these activities take place at a single installation in parallel with activities involving radioactive waste from nuclear installations.⁷¹ "Management of spent nuclear fuel" means its storage, reprocessing, transmutation,

⁶⁴ Act No. 87/2018 Coll., *supra* note 25.

⁶⁵ Regulation of the UJD No. 30/2012 Coll., as amended by Regulation No. 101/2016 Coll., *supra* note 14.

⁶⁶ 2004 Atomic Act, *supra* note 2, Section 2(k).

⁶⁷ Act No. 87/2018 Coll., as amended, *supra* note 25.

⁶⁸ 2004 Atomic Act, *supra* note 2, Section 2(t).

⁶⁹ *Ibid.*, Section 21(4).

⁷⁰ *Ibid.*, Section 4(1)(d).

⁷¹ *Ibid.*, Section 2(h)(2).

handling and disposal.⁷² "Storage of radioactive waste or spent nuclear fuel" means placement of radioactive waste or spent fuel into areas, premises or facilities allowing its isolation, control and environmental protection, with the intent of its subsequent retrieval.⁷³ "Disposal of radioactive waste or spent nuclear fuel" means permanent emplacement of radioactive waste or of spent nuclear fuel into a radioactive waste repository or spent fuel repository without the intent of its retrieval.⁷⁴

The originator of the radioactive waste is responsible for ensuring its safe management, in compliance with the National Programme stipulated in the Nuclear Fund Act, prior to the waste being received at the repository. The licence holder for the management of radioactive waste is responsible for the safety of the radioactive waste management facilities. The licence holder for the commissioning, operation or decommissioning of a nuclear installation is responsible for the safety aspects of the nuclear installation, including the radioactive waste managed therein. If this licensee is also responsible for managing the radioactive waste in the nuclear installation and if such radioactive waste originated in the nuclear installation where another person is the licence holder thereof, then, for each step of the management of radioactive waste, there must be clearly set liability for the respective radioactive waste between those licence holders as managed in the relevant nuclear installation.⁷⁵

Similarly, the licensee that has produced the spent fuel is responsible for its safe management until its delivery and receipt at a repository. "Repository" means a nuclear installation that serves for the disposal of radioactive waste or spent nuclear fuel, the main purpose of which is to store radioactive waste or spent nuclear fuel allowing for its isolation, monitoring and protection of the environment.⁷⁶

The provisions applying to the management of radioactive waste apply also to the management of spent nuclear fuel.⁷⁷ Detailed requirements for the management of radioactive waste and spent fuel are set out in Regulation No. 30/2012 Coll., as amended by Regulation No. 101/2016 Coll.⁷⁸

The costs associated with the management of radioactive waste and spent nuclear fuel, including the monitoring of repositories after they have been sealed and any related research and development activities, are to be reimbursed by the originator of the waste. Where the originator of the radioactive waste is unknown or is not capable of managing the waste safely, the UJD shall appoint another licensee to manage this radioactive waste. In its decision, the UJD must define the scope of such management. When the originator is not known, the costs of management are to be reimbursed by the National Nuclear Fund. If the originator is identified at a later point in time, it will be responsible for reimbursing

⁷² *Ibid.*, Section 2(h)(3).

⁷³ *Ibid.*, Section 2(l).

⁷⁴ *Ibid.*, Section 2(p).

⁷⁵ *Ibid.*, Section 21(1).

⁷⁶ *Ibid.*, Section 2(r).

⁷⁷ *Ibid.*, Section 21(16).

⁷⁸ Regulation of the UJD No. 30/2012 Coll., as amended by Regulation No. 101/2016 Coll., *supra* note 14.

the National Nuclear Fund for the costs incurred for the management of this radioactive waste.⁷⁹

The National Nuclear Fund was established by the Nuclear Fund Act and by Government Ordinance No. 22/2019 Coll. laying down details on the amount of obligatory contribution and payment as well as details on the collection and payment of obligatory contributions to the National Nuclear Fund⁸⁰ (for details on the management of the National Nuclear Fund, see *supra*, Section 4(a)(iii) on "Decommissioning"). Regular contributions from nuclear power plant operators, transfer payments from electricity grid operators and electricity distributors that collect payments from customers to reimburse historical debt, monetary penalties imposed by the UJD, and revenues from bank deposits and public grants all contribute to the financial resources of the National Nuclear Fund. In the Slovak Republic, it is only possible to dispose of radioactive waste that has been produced on the national territory, unless otherwise stipulated by an international treaty, subject to ratification, by which the Slovak Republic is bound. Such an international treaty must take into account IAEA Safety Standards.

Imports of radioactive waste into the territory of the Slovak Republic are prohibited, except in cases of:

- shipments of radioactive waste and spent fuel through the Slovak Republic, in accordance with the relevant provisions of the 2004 Atomic Act;⁸¹
- imports of radioactive waste permitted by the UJD. These can concern waste:
 - produced by reprocessing and conditioning of radioactive materials exported for this purpose and whose re-import was permitted by the UJD in advance;
 - imported for the purpose of treatment or conditioning in the Slovak Republic, if the export of material with aliquot activity is contractually covered and permitted by the UJD.⁸²

If radioactive waste or spent fuel produced in the Slovak Republic is shipped for conditioning or reprocessing to a member state of the European Union or to a third country, the ultimate responsibility for the safe and responsible disposal of such materials, including the waste that arises as a by-product, is still borne by the Slovak Republic, unless otherwise stipulated by an international treaty, subject to ratification, to which the Slovak Republic is bound.

The disposal of radioactive waste in another EU member state or third country, which has been produced in the Slovak Republic, is only possible on the basis of an international treaty between the Slovak Republic and that other EU member state or third country. Such an international treaty shall enter into force no later than at the time of the shipment of the radioactive waste concerned; it shall take into account the recommendations of the European Atomic Energy Community; and it shall be in accordance with the provisions of Articles 16 to 16l of the 2004 Atomic Act. If radioactive waste is disposed of in a third

⁷⁹ 2004 Atomic Act, *supra* note 2, Section 21(10).

⁸⁰ Government Ordinance No. 22/2019 Coll., *supra* note 33.

⁸¹ 2004 Atomic Act, *supra* note 2, Section 16 to 16l on "Shipment of radioactive waste between Member States and from and to the Community".

⁸² *Ibid.*, Section 21(12).

country, the UJD shall inform the European Commission regarding the conclusion of an international treaty on such radioactive waste disposal prior to the performance of the shipment. Furthermore:

- the third country in question must be a contracting party of an international treaty by which the Slovak Republic is bound⁸³ or have concluded an agreement with Euratom covering the management of spent fuel or radioactive waste;
- concerning the management of radioactive waste, the objectives of the programmes of the third country where radioactive waste is due to be disposed of must be equivalent to the requirements under the 2004 Atomic Act in terms of high safety levels; and
- a repository shall be in operation in the third country before the shipment is carried out and the operator of the repository shall have a licence for the acceptance of the shipped radioactive waste.

At the international level, the Slovak Republic ratified the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management⁸⁴ on 6 October 1998.

8. Nuclear security

Following the breakup of Czechoslovakia, the Slovak Republic acceded to the Treaty on the Non-Proliferation of Nuclear Weapons⁸⁵ on 1 January 1993 and to the Convention on the Physical Protection of Nuclear Material⁸⁶ on 10 February 1993. It also ratified the Comprehensive Nuclear Test Ban Treaty⁸⁷ on 3 March 1998. The UJD is the official point of contact for international bodies dealing with non-proliferation regimes, such as the Nuclear Suppliers Group and the Zangger Committee (for more details on the system of accountancy and monitoring of nuclear materials, see *supra*, Section 3 on “Radioactive substances, nuclear fuel and equipment”).

The physical protection of nuclear installations and nuclear materials is dealt with in Section 26 of the 2004 Atomic Act. “Physical protection” is defined as a set of technical, administrative or organisational measures needed to prevent and identify unauthorised handling of nuclear installations, nuclear material, special material and equipment, management of radioactive waste and spent nuclear fuel, and shipment of radioactive

⁸³ Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (Communication of the Ministry of Foreign Affairs of the Slovak Republic No. 125/2002).

⁸⁴ Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (1997), IAEA Doc. INFCIRC/546, 2153 UNTS 357, entered into force 18 June 2001 (Joint Convention).

⁸⁵ Treaty on the Non-Proliferation of Nuclear Weapons (1968), IAEA Doc. INFCIRC/140, 729 UNTS 169, entered into force 5 March 1970 (NPT).

⁸⁶ Convention on the Physical Protection of Nuclear Material, (1980), IAEA Doc. INFCIRC/274 Rev. 1, 1456 UNTS 125, entered into force 8 February 1987 (CPPNM).

⁸⁷ Comprehensive Nuclear-Test-Ban Treaty (1996) (not yet entered into force), available at: www.ctbto.org/fileadmin/content/treaty/treaty_text.pdf (Nuclear Test Ban Treaty).

material, as well as the unauthorised entering into a nuclear installation and sabotage.⁸⁸ The licensee is responsible for physical protection within the scope of its authorised activities.

In case of trespassing on the site of a nuclear installation, unauthorised activities at a nuclear installation or during the shipment of nuclear materials or threat of such activities, the Police Corps shall provide assistance within the scope of their powers upon request from the licensee.⁸⁹ Immediately upon establishing the facts pursuant to Section 26(8) of the 2004 Atomic Act, the authorisation holder is required to take the necessary measures and to inform the Police Corps and the UJD.⁹⁰

In addition to the provisions in the 2004 Atomic Act, a regulation⁹¹ sets out criteria to categorise the premises of nuclear facilities, nuclear material and radioactive waste, and provides for various and differentiated requirements for their management, in accordance with their categorisation. Entry into protected areas is limited and regulated by the licensees themselves on the basis of granting a permit.

9. Transport

Transport of radioactive materials, including nuclear materials, radioactive waste and spent nuclear fuel by road, rail, water and air, is governed by both the 2004 Atomic Act and a regulation⁹² based on the IAEA Safety Standards.⁹³ Nuclear materials may be transported only on the basis of an authorisation for shipment issued by the UJD to the consignor.⁹⁴ The scope and content of the documentation required to receive a licence for such shipment is established in Annex No. 2 to the 2004 Atomic Act. The shipment of radioactive materials may be performed only by means of transport equipment of a type approved by the UJD.⁹⁵ Each shipment of radioactive materials requires a separate authorisation, unless the type of radioactive material, the type of shipment and the consignor are the same. In such case, authorisation for shipment may be issued for a maximum period of one year for the shipment of nuclear material or spent fuel, or for up to three years for the shipment of radioactive waste.⁹⁶

The consignor as licensee is responsible for ensuring that the persons who participate in the shipment of radioactive materials with the consignor's permission observe all the physical protection requirements prescribed by the 2004 Atomic Act⁹⁷ and by Section 6 of

⁸⁸ 2004 Atomic Act, *supra* note 2, Section 2(b).

⁸⁹ *Ibid.*, Section 26(8).

⁹⁰ *Ibid.*, Section 26(9).

⁹¹ Regulation of the UJD No. 51/2006 Coll. on requirements for provisions of physical protection, *supra* note 37.

⁹² Regulation of the UJD No. 57/2006 Coll. on details concerning the requirements for shipment of radioactive material.

⁹³ IAEA (2018), Regulations for the Safe Transport of Radioactive Material, IAEA Safety Standards Series No. SSR-6 (Rev. 1), IAEA, Vienna.

⁹⁴ 2004 Atomic Act, *supra* note 2, Section 15.

⁹⁵ *Ibid.*, Section 15(4).

⁹⁶ *Ibid.*, Section 15(10).

⁹⁷ *Ibid.*, Section 26(4).

the Regulation on requirements for shipment of radioactive materials (for the obligations of the consignor when radioactive materials are being transported, see *supra*, Section 8 on “Nuclear security”).

There are specific provisions in the 2004 Atomic Act dealing with events during the shipment of radioactive material. An “event during shipment” is defined as an event that occurred during the shipment of radioactive materials, which caused non-compliance with the requirements for nuclear safety.⁹⁸ The consignor is responsible for taking preventive measures, as well as measures to mitigate or eliminate any consequences of incidents and accidents during the shipment of radioactive materials. The consignor is also responsible for notifying the UJD, the Ministry of Interior, the Ministry of Transport and the Ministry of Health in case of an incident or accident during the shipment.⁹⁹

Radioactive materials may not be shipped without an approved emergency transport order. As part of the emergency planning requirements under the 2004 Atomic Act, applicants for an authorisation for shipment of radioactive material must submit an emergency transport order to the UJD for approval. The emergency transport order must be submitted at least six months prior to the first scheduled shipment of radioactive materials and subsequently every five years for re-assessment.¹⁰⁰ The emergency transport order is to be approved by the Ministry of Transport.¹⁰¹ Details on the emergency planning proceedings and documentation are provided in the Regulation on emergency planning.

The consignor as licensee is required to notify the Ministry of Interior about the schedule of shipments no later than ten days prior to the shipment of radioactive materials. The consignor is required to make the persons involved in the transport of radioactive materials familiar with the emergency transport order and to train the designated persons according to the emergency transport order. The consignor must instruct all the other persons involved in the transport of radioactive materials about their duties in case of an incident or accident during the transport of radioactive materials.

10. Nuclear third party liability

The Slovak Republic acceded to the 1963 Vienna Convention¹⁰² and the Joint Protocol relating to the Application of the Vienna Convention and the Paris Convention¹⁰³ on 7 March 1995. Third party liability for nuclear damage and financial coverage thereof is settled within the 2015 Act on Civil Liability for Nuclear Damage and on its Financial Coverage and on Changes and Amendments to Certain Laws.¹⁰⁴ Compensation for nuclear damage is covered by the provisions of international treaties, to which the Slovak Republic

⁹⁸ *Ibid.*, Section 27(2).

⁹⁹ *Ibid.*, Section 27(4(d)).

¹⁰⁰ *Ibid.*, Section 28(13).

¹⁰¹ *Ibid.*, Section 28(15)(c).

¹⁰² Vienna Convention on Civil Liability for Nuclear Damage (1963), IAEA Doc. INFCIRC/500, 1063 UNTS 266, entered into force 12 November 1977 (Vienna Convention).

¹⁰³ Joint Protocol Relating to the Application of the Vienna Convention on Civil Liability for Nuclear Damage and the Paris Convention on Third Party Liability in the Field of Nuclear Damage (1988), IAEA Doc. INFCIRC/402, 1672 UNTS 293, entered into force 27 April 1992 (Joint Protocol).

¹⁰⁴ Act No. 54/2015 Coll. on civil liability for nuclear damage and its financial coverage and on changes and amendments to certain laws.

is a party; thus, the 1963 Vienna Convention and the Joint Protocol shall be applied in case of occurrence of nuclear damage. In fact, detailed provisions of the Act on Civil Liability for Nuclear Damage largely reflect the provisions of the 1963 Vienna Convention.

Third party liability for nuclear damage caused by a “nuclear incident” is generally channelled to the operator, except for operators of repositories, and it is constructed as a strict liability. The Act on Civil Liability for Nuclear Damage also refers to the definition of “nuclear damage” as contained in the 1963 Vienna Convention.¹⁰⁵ The licensee for the commissioning of a nuclear installation, operation of a nuclear installation (except repositories), the decommissioning phase of a nuclear installation, or shipment of radioactive material is liable for nuclear damage.

Where nuclear damage engages the liability of more than one operator, the operators shall be liable according to the provisions of the 1963 Vienna Convention and, in case of a settlement between these operators, they are liable for such damage according to their share of the damage. If one operator has multiple nuclear installations for the same or different purpose or life cycle and there is a common internal emergency plan approved for these installations, such installations are considered as a single nuclear installation. If there are several nuclear installations regarded as a single nuclear installation, they shall have one common statutory liability limit, which is the same as the maximum liability limit of the individual nuclear installation from among those several nuclear installations.

The operator is liable for any nuclear incident resulting in nuclear damage in the phase of commissioning or during operation of any nuclear installation:

- with a nuclear reactor or nuclear reactors for energy purposes, up to a maximum amount of EUR 300 million;
- with a nuclear reactor or nuclear reactors serving exclusively for scientific, educational or research purposes, up to a maximum amount of EUR 185 million;
- for handling nuclear material, for handling spent nuclear fuel or for storage, conditioning, treatment of radioactive waste, up to a maximum amount of EUR 185 million.

The operator is liable for any nuclear incident resulting in nuclear damage in the phase of decommissioning of any of the aforementioned nuclear installations, as well as for any nuclear incident resulting in nuclear damage occurred during any shipment of radioactive materials, up to a maximum amount of EUR 185 million. The licensee must ensure that liability for nuclear damage is secured through insurance or another type of financial security up to the total amount of liability. Insurance or another form of financial security must be established for each nuclear installation or shipment of radioactive material separately and must be maintained during the whole period of validity of the licence and for at least ten years after a nuclear incident. Events are not covered by the liability regime for nuclear damage if they are caused by small quantities of nuclear material or radioactive waste, in respect of which no nuclear damage is expected. A UJD regulation¹⁰⁶ lays down details concerning the maximum limits of such quantities of material.

¹⁰⁵ *Ibid.*, Section 3(2).

¹⁰⁶ Regulation of the UJD No. 170/2015 Coll. establishing a list of radioactive materials, their quantities and their physical and chemical parameters justifying the low risk of nuclear damage.

II. Institutional Framework

1. Regulatory and supervisory authorities

a) Nuclear Regulatory Authority of the Slovak Republic (UJD)

The Nuclear Regulatory Authority of the Slovak Republic (Úrad jadrového dozoru Slovenskej republiky – UJD) was established on 1 January 1993 as the successor to the former Czechoslovak Atomic Energy Commission. Its status, mission and competences are laid down in a provision of the Act on Organisation.¹⁰⁷ The UJD is a central governmental body independent from the ministries. This status allows it to act as an independent regulatory body, reporting its activities directly to the government. A Chairperson, appointed by the government, heads the UJD.

In addition to the Chairperson, the UJD is comprised of two departments: the Department of Safety Evaluation and Inspection Activities, located in Trnava (near the Bohunice site), and the Department of Regulatory Activities and International Co-operation, located in Bratislava. There are also two inspection units located at these sites, with two local inspectors each. The UJD has also established an Information Centre in Bratislava to disseminate and provide the public and the media with information about its activities and the status of nuclear safety in the Slovak Republic.

The UJD is responsible for the regulation and supervision of the peaceful use of nuclear energy within the territory of the Slovak Republic in compliance with the 2004 Atomic Act. Its regulatory and supervisory competencies cover the following areas:

- safety of nuclear installations;
- radioactive waste management, including supervision of radioactive waste originating from nuclear installations and the safety of repositories for all types of radioactive waste;
- safeguards and control over nuclear materials and dual-use goods;
- quality assurance programmes of nuclear installations;
- physical protection;
- emergency preparedness;
- training and evaluating the competency of the licensee's employees;
- shipment of nuclear materials, radioactive waste and spent fuel;
- early notification of nuclear accidents and mutual international co-operation activities; and
- international agreements and obligations in the field of nuclear safety and nuclear materials.

¹⁰⁷ Act No. 575/2001 Coll., *supra* note 4, Section 29.

Details on the tasks of the UJD relating to each of these areas are set out in Sections 3, 4, 5 and 6 of the 2004 Atomic Act. Of particular importance are the inspection competences of the UJD (see *supra*, Section 4(a)(ii) on “Inspection”).

b) Ministry of Health

The Ministry of Health of the Slovak Republic is the competent central body responsible for radiological protection of workers and the public, but officially it has delegated its supervisory competencies to the Public Health Authority (PHA), which is its subordinated body.

The PHA grants licences for the use of radiation sources in medical industries and research activities. However, it supervises the management of radioactive waste that has originated from such activities (i.e. other than waste from NPPs) only until the moment that radioactive waste from non-nuclear installations is treated and shipped for final disposal. The management of such waste falls under the competency of UJD. Radiological protection measures inside nuclear installations, as well as off-site, are the PHA’s responsibility.

c) Ministry of Environment

The Ministry of Environment of the Slovak Republic is responsible for EIA issues in compliance with the Act on Environmental Impact Assessment.¹⁰⁸ This law requires holding EIA proceedings for the construction of, or significant changes to, a nuclear installation or for significant changes to the activity performed at a nuclear installation, which could have an adverse impact on the environment.

The Ministry of Environment operates the online environmental radiation-monitoring network that monitors and collects radiation situation data within the territory of the Slovak Republic at all times. Its subordinated bodies and the Regional Environmental Offices provide the UJD with their comments and opinions regarding environmental protection in all licensing proceedings.

The Minister of Environment also chairs the Government Commission for Radiological Emergencies.

d) Ministry of Interior

The Ministry of Interior of the Slovak Republic is responsible for fire protection, the maintenance of physical protection of nuclear materials and nuclear installations in emergency situations and civil protection measures during the threat or occurrence of a radiological incident and for providing the public with assistance in the event of a nuclear accident or radiological emergency.¹⁰⁹ In the event of a nuclear incident or accident, the operator must immediately notify the Ministry of Interior.¹¹⁰

e) Ministry of Economy

The Ministry of Economy of the Slovak Republic is responsible for the promotion and development of nuclear energy use, for establishing a nuclear energy policy for the

¹⁰⁸ Act on Environmental Impact Assessment, *supra* note 19.

¹⁰⁹ Act No. 42/1994, as amended, *supra* note 51.

¹¹⁰ 2004 Atomic Act, *supra* note 2, Section 27(4)(d).

Slovak Republic and for preparing the related legislation. It also issues licences for the export of dual-use goods, equipment and technology, which are subject to prior UJD approval.

The Ministry of Economy nominates the Chairperson and four other members of the Board of Trustees of the National Nuclear Fund. In addition, the Ministry has competencies regarding the strategic, financial and conceptual documents adopted and implemented by the National Nuclear Fund.

The Ministry of Economy is obliged to establish, create or authorise a legal entity, the Agency for Disposal of Radioactive Waste and Spent Fuel, as the agency responsible for disposal activities within the territory of the Slovak Republic on the basis of a licence issued by the Authority. The referred legal entity must be a holder of a licence for the operation of a repository and the Slovak Republic must hold a 100% stake in the entity. At the same time, this entity may not be the holder of a licence for the operation of a nuclear facility for generation of electric energy or for research.¹¹¹

Disposal of radioactive waste or spent nuclear fuel in the Slovak Republic is prohibited to any persons other than the specified agency.¹¹²

f) Ministry of Labour and National Labour Inspectorate

The responsibilities of the Ministry of Labour of the Slovak Republic are set out in two Acts: one on health and safety at work¹¹³ and the other on work inspection activities. The National Labour Inspectorate is a part of the Ministry of Labour and is responsible for the adoption of working conditions standards and for the supervision of the compliance with such standards at places of work. The National Labour Inspectorate also has responsibilities in the area of industrial safety, especially with regard to the technical safety of technologies and installations used.

2. Public and semi-public agencies

There are no public or semi-public agencies in the nuclear sector, but there are some commercial companies providing the UJD with support on a contractual basis. The most important one among them is the Nuclear Power Plant Research Institute (Výskumný ústav jadrových elektrární – VUJE). The VUJE undertakes research and development in the field of nuclear safety and provides the UJD with independent safety analysis and technical support. The VUJE also conducts training for employees of NPPs at the Bohunice site. The final training of operating personnel at the Mochovce NPP is also carried out with a full-scale simulator, which is located on-site.

¹¹¹ JAVYS is now authorised by the Ministry of Economy to play the role of the Agency.

¹¹² 2004 Atomic Act, *supra* note 2, Section 3(11).

¹¹³ Act No. 124/2006 Coll., as amended, *supra* note 26.

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NUCLEAR ENERGY AGENCY

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The mission of the NEA is:

- to assist its member countries in maintaining and further developing, through international co-operation, the scientific, technological and legal bases required for a safe, environmentally sound and economical use of nuclear energy for peaceful purposes;
- to provide authoritative assessments and to forge common understandings on key issues as input to government decisions on nuclear energy policy and to broader OECD analyses in areas such as energy and the sustainable development of low-carbon economies.

Specific areas of competence of the NEA include the safety and regulation of nuclear activities, radioactive waste management and decommissioning, radiological protection, nuclear science, economic and technical analyses of the nuclear fuel cycle, nuclear law and liability, and public information. The NEA Data Bank provides nuclear data and computer program services for participating countries.

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