National legislative and regulatory activities

Algeria

Nuclear safety and radiological protection

Executive Decree No. 17-126 of 27 March 2017

A new regulatory framework sets out the measures taken to prevent radiological and nuclear risks and the means and modalities put in place to respond to nuclear or radiological accidents should they occur.

The Algerian Executive Decree No. 17-126 of 27 March 2017[1] establishes a regulatory framework that organises and defines the roles and responsibilities of stakeholders in order to prevent and limit the consequences of any radiological or nuclear accident.

The new scheme is based on the system for preventing and combatting disasters established by Law No. 04-20 of 25 December 2004 regarding the prevention of major risks and the management of disasters within the context of sustainable development, as well as the International Atomic Energy Agency (IAEA) safety requirements relating to preparedness and response for a nuclear or radiological emergency.

The Convention on Early Notification of a Nuclear Accident and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, to which Algeria is a party, encourage parties to implement arrangements in order to manage emergency situations.

The new Algerian regulatory framework ensures proper response co-ordination and management in accordance with the main features of the radiological and nuclear risks management principles which are: monitoring, alert and preparedness.

According to the new system, the Algerian Atomic Energy Committee (Commissariat à l'énergie atomique) is responsible for the monitoring of radiological and nuclear risks. It fulfils its mandate by managing a nation-wide surveillance network, analysing any unforeseen radiological or nuclear event and its impact as well as relaying relevant information to all levels of the country's administrative system.

Alerts can be raised at the local or national level, depending on the seriousness and scope of the foreseeable consequences of any event. The response is organised according to either the Internal Emergency Plans established by operators, the Detailed Emergency Plans set out by local authorities or the National Radiological and Nuclear Response Plan established by the Nuclear and Radiological Emergency Interdisciplinary Committee (the Interdisciplinary Committee) placed under the authority of the Ministry of the Interior and Local Authorities.

1. Executive Decree No. 17-126 of 27 March 2017 detailing the measures taken to prevent radiological and nuclear risks as well as the means and modalities put in place respond to radiological or nuclear disaster, should they occur. Available at: www.joradp.dz/FTP/jo-francais/2017/F2017021.pdf.

In case of an accident, response to the radiological and/or nuclear accident is co-ordinated by the Interdisciplinary Committee at the local and national levels. The Interdisciplinary Committee is responsible for activating international assistance and notification procedures pursuant to the above-mentioned conventions.

This system will also allow Algeria to respond to radiological emergency situations that may occur abroad and have an impact on the Algerian territory, as well as to malicious actions involving the use of radioactive material.

Belgium

Liability and compensation

Law of 7 December 2016 modifying the law of 22 July 1985 on third party liability in the field of nuclear energy[2]

The Belgian Law on nuclear third party liability of 29 June 2014 (2014 Law) entered into force on 1 January 2016, more than ten years after the signature of the 2004 Protocols[3] to amend the Paris[4] and Brussels Supplementary Conventions[5] (jointly referred to as the 2004 Protocols). The 2014 Law modified the existing Law of 22 July 1985 Law on nuclear third party liability in the field of nuclear energy (1985 Law), transposing the 2004 Protocols. The 2016 entry into force of the 2014 Law, however, was perceived to have taken effect somewhat prematurely: before the ratification by the EU member states of the 2004 Protocols, before the entry into force of the 2004 Protocols[6] and before a system was enacted to regulate the modalities of the state financial security to be provided to the nuclear operator to cover certain heads of damage provided in the 2004 Paris Protocol if it is proven impossible to obtain relevant full coverage from the private insurance or the financial markets.

The Belgian legislature intervened by adopting the Law of 7 December 2016 modifying the Law of 22 July 1985 on third party liability (2016 Law), to temporarily revert back to the previous legal situation for certain provisions. Indeed, according to Article 7 of the new 2016 Law, the definitions of the terms "nuclear damage", "measures of reinstatement", "preventive measures" and "reasonable measures", which had been amended by the 2014 Law to reflect the modified definitions

2. *Moniteur belge* [Belgian Official Journal] 14 December 2016, p. 86382-86383.
3. Protocol to Amend the Convention on Third Party Liability in the Field of Nuclear Energy of 29 July 1960, as amended by the Additional Protocol of 28 January 1964 and by the Protocol of 16 November 1982 (2004) (not yet in force), available at: www.oecd-nea.org/law/paris_convention.pdf (2004 Paris Protocol); Protocol to Amend the Convention of 31 January 1963 Supplementary to the Paris Convention of 29 July 1960 on Third Party Liability in the Field of Nuclear Energy, as amended by the Additional Protocol of 28 January 1964 and by the Protocol of 16 November 1982 (2004) (not yet in force), available at: www.oecd-nea.org/law/brussels_supplementary_convention.pdf (2004 Brussels Protocol).
4. Convention on Third Party Liability in the Field of Nuclear Energy of 29th July 1960, as amended by the Additional Protocol of 28th January 1964 and by the Protocol of 16th November 1982 (1960), 1519 UNTS 329 (Paris Convention or PC).
5. Convention of 31st January 1963 Supplementary to the Paris Convention of 29th July 1960, as amended by the Additional Protocol of 28th January 1964 and by the Protocol of 16th November 1982 (1963), 1041 UNTS 358 (Brussels Supplementary Convention or BSC).
6. The 2004 Protocol to amend the Paris Convention will enter into force upon ratification by at least two thirds of the contracting parties to the Paris Convention; and the 2004 Protocol to amend the Brussels Supplementary Convention will enter into force upon ratification by all the contracting parties to the Brussels Supplementary Convention.

contained in Article 1 of the Paris Convention as amended by the 2004 Protocol,[7] will enter into force only on 1 January 2018, or on such date as the King may establish by Royal Decree. However, the definitions will enter into force, in any event, on 1 January of the year following the entry into force of the 2004 Paris Protocol.

Thus, the heads of damage to be covered by insurance or other financial security according to the 2016 Law temporarily remain those referred to in the currently applicable Paris Convention, it being expressly stated in the 2016 Law that, until the entry into force of the new definitions, "nuclear damage" will mean "damage to persons and goods as provided in the Civil Code" (or, in other terms, the heads of damage that must be covered pursuant to the currently applicable Paris Convention, as required before the law of 29 June 2014 entered into force).

Similarly, the prescription period for claims for bodily injury brought between 10 and 30 years after the occurrence of a nuclear incident is again, as was the case before the entry into force of the 2014 Law, covered by a financial security provided by the Belgian State to the nuclear operators. This State financial security will be provided until 1 January 2018, or until an earlier or later date to be determined by Royal Decree, or until 1 January of the year following the entry into force of the 2004 Paris Protocol when the operator will have to obtain insurance or financial security in the insurance or financial markets.

The 2016 Law also specifies that the measures applicable to nuclear damage caused by a nuclear incident according to the Paris Convention and the Belgian Law will apply in non-contracting states of the Paris Convention without nuclear installations, if the King extends their application to such state by Royal Decree deliberated in the Council of Ministers. Thus, the modification of the territorial scope of application as foreseen in the revised Paris Convention is also postponed until the adoption of such Royal Decree.

Finally, with respect to the provision of Article 7(1) of the 1985 Law, the 2016 Law clarifies explicitly, as had also been the understanding of the nuclear sector even before the entry into force of the 2016 Law, that the maximum amount of nuclear damage for which the nuclear operator is liable amounts to EUR 1.2 billion for each nuclear incident.

The effect of the 2016 Law modifying the 1985 Law is therefore to reinstate the situation preceding the entry into force of the 2014 Law, while allowing the King to expeditiously react to any future change with respect to the entry into force of the 2004 Protocols, which is expected to take place soon, the date, however, remaining uncertain.

7. Convention on Third Party Liability in the Field of Nuclear Energy of 29 July 1960, as amended by the Additional Protocol of 28 January 1964, by the Protocol of 16 November 1982, and by the Protocol of 12 February 2004 (not yet in force), an unofficial consolidated text is available at: www.oecd-nea.org/law/Unofficial%20consolidated%20Paris%20Convention.pdf (revised Paris Convention).

Canada

Liability and compensation

Ratification by Canada of the Convention on Supplementary Compensation for Nuclear Damage

On 6 June 2017, Canada ratified the Convention on Supplementary Compensation for Nuclear Damage (CSC).[8] Because Canada is not a member of the Paris Convention[9] or the Vienna Convention,[10] it was required to join as an Annex State. Ratification followed the 1 January 2017 entry into force of the Nuclear Liability and Compensation Act[11] and the Nuclear Liability and Compensation Regulations.[12] The NLCA replaced the previous domestic legislation in order to better address liability and compensation in the event of a nuclear accident in Canada. *Nuclear Law Bulletin* Nos. 92[13] and 95[14] provide a more detailed description of the NLCA.

In addition to implementing Canadian membership in the CSC, the NLCA provides that the operator of a nuclear installation is absolutely and exclusively liable for damages arising from an accident at that operator's nuclear installation or from an accident during transportation of nuclear material from the operator's nuclear installation. The legislation also increases the liability limit for operators and broadens the definition of compensable damages to include environmental damages and preventative measures. Finally, the legislation extends the limitation period for making claims for bodily injury and loss of life to 30 years and adapts a dual system for the compensation of claims. To meet its obligations under the CSC, Canada provided the Depositary of the CSC with a copy of the NLCA, which complies with the provisions of the CSC and CSC Annex.

Membership in the CSC is important to Canada, as it will address liability and compensation within member countries arising from nuclear accidents occurring at nuclear installations and during the transportation of nuclear material. The CSC also provides legal certainty on jurisdiction in the case of a nuclear incident in Canada or another CSC member country, and limits the liability of Canadian nuclear suppliers and contractors who wish to conduct business in member countries. In addition, it will make available an additional assured amount of compensation to claimants in Canada through the CSC's pooled funding. Canada's contribution to the CSC public fund will be reimbursed by nuclear power plant operators, pursuant to the NLCA.

8. Convention on Supplementary Compensation for Nuclear Damage (1997), IAEA Doc. INFCIRC/567, 36 ILM 1473, entered into force 15 April 2015 (CSC). IAEA, News Report, "Canada Joins the Convention on Supplementary Compensation for Nuclear Damage" (8 June 2017), available at: www.iaea.org/newscenter/news/canada-joins-the-convention-on-supplementary-compensation-for-nuclear-damage.
9. Convention on Third Party Liability in the Field of Nuclear Energy of 29th July 1960, as amended by the Additional Protocol of 28th January 1964 and by the Protocol of 16th November 1982 (1960), 1519 UNTS 329 (Paris Convention or PC).
10. Vienna Convention on Civil Liability for Nuclear Damage (1963), IAEA Doc. INFCIRC/500, 1063 UNTS 266, entered into force 12 November 1977 (Vienna Convention).
11. Nuclear Liability and Compensation Act, Statutes of Canada (SC) 2015, Chapter 4, section 120 (NLCA).
12. Nuclear Liability and Compensation Regulations, Statutory Orders and Regulations (SOR)/2016-88.
13. Nuclear Energy Agency (NEA) (2013), "Liability and compensation", *Nuclear Law Bulletin*, No. 92, OECD, Paris, pp. 99-100.
14. NEA (2015), "An Act respecting Canada's offshore oil and gas operations, enacting the Nuclear Liability and Compensation Act, repealing the Nuclear Liability Act and making consequential amendments to other Acts (Short title: Energy Safety and Security Act)", *Nuclear Law Bulletin*, No. 95, OECD, Paris, pp. 69-70.

Canada's ratification of the CSC demonstrates the Government of Canada's commitment to the establishment of a global nuclear liability regime.

France

Radioactive waste management

*Decree No. 2017-231 of 23 February 2017 implementing Article L. 542-1-2 of the French Environmental Code (*Code de l'environnement*) and setting out the provisions of the National Radioactive Material and Waste Management Plan*[15]

Order of 23 February 2017 implementing Decree No. 2017-231 of 23 February 2017 implementing Article L. 542-1-2 of the French Environmental Code setting out the provisions of the National Radioactive Material and Waste Management Plan[16]

The Decree of 23 February 2017 adds a new Section 9 to Book V, Title IV, Chapter II of the Environmental Code (Regulatory part). This new Section entitled "National Radioactive Material and Waste Management Plan" (Plan national de gestion des matières et des déchets radioactifs) (PNGMDR) comprises Articles D. 542-74 to D. 542-96.

The PNGMDR takes stock of the existing radioactive material and waste management methods and technical solutions implemented in this regard; lists the foreseeable needs of interim and final storage facilities; and sets out the required capacity of these facilities as well as the storage durations.

The new Section defines the roles assigned to radioactive waste producers, especially in relation to the studies that need to be submitted to French National Radioactive Waste Management Agency (Agence nationale pour la gestion des déchets radioactifs) (Andra) and the Minister of Energy. The Section details the management modalities for:

- interim situations (interim storage capacity for spent fuel and long-lived high-level (HLW) and intermediate-level (ILW) waste);
- nuclear material;
- long-term management of radioactive waste (legacy stocks, management by natural radioactive decay of very-short-lived waste (VSLW), management of very-low-level waste (VLLW), management of long-lived low-level waste(LLW), research and studies relating to HLW and ILW management, the CIGEO Project, spent fuel management, and ILW management).

This Decree repeals Decree No. 2013-1304 of 27 December 2013 implementing Article L. 542-1-2 of the Environmental Code and setting out the provisions of the PNGMDR, as well as Articles D. 542-18 and D. 542-19 of the Environmental Code.

The Order, also dated 23 February 2017, draws a detailed list of the studies and reports that need to be submitted pursuant to the PNGMDR 2016-2018.

For example, the Nuclear Safety and Radiological Protection Institute (Institut de radioprotection et de sûreté nucléaire) (IRSN) is expected to submit to the Ministers in charge of Nuclear Safety and Energy, by 31 December 2017, a report on the possible methodology and criteria that could be used to assess the level of harmfulness of radioactive material and waste. This report should also include

15. *Journal officiel "Lois et Décrets"* [Official Journal of Laws and Decrees] (J.O.L. et D.), 25 February 2017, text no. 9.
16. J.O.L. et D., 25 February 2017, text no. 12.

considerations on the evolution of radioactive material and waste characteristics on the short, medium and long term, the environmental toxicity of radioactive material and waste and the associated impact of the management modalities set out by the PNGMDR.

As from the 2018 edition, the National Inventory compiled by Andra under Article L. 542-12 of the Environmental Code shall:

- propose reference industrial scenarios in line with the objectives of Law No. 2015-992 of 17 August 2015 relating to the Energy Transition for Green Growth;
- present a prospective scenario of non-renewal of the nuclear electricity production in which material that cannot be reused is considered as waste; and
- consider an alternative scenario for the renewal of the French nuclear power plant fleet in which the future fleet contains no fast reactor.

All the required studies and reports are listed by topic, with an indication of the parties involved and a deadline for submission in either 2017 or 2018.

This Order repeals the Order of 7 November 2014 implementing Decree No. 2013-1304 of 27 December 2013 implementing Article L. 542-1-2 of the Environmental Code and setting out the provisions of the PNGMDR.

Liability and compensation

Order of 10 November 2016 amending the Appendix to the Order of 19 August 2016 setting the list of reduced liability amount sites pursuant to Decree No. 2016-333 of 21 March 2016 implementing Article L. 597-28 of the Environmental Code and relating to third party liability in the nuclear energy field[17]

Article L. 597-28 of the Environmental Code sets the liability amount for a nuclear installation's operator at EUR 700 million for a single nuclear accident. This amount can be reduced to EUR 70 million for a single nuclear accident when only low-risk facilities are operated on a single site.

The Decree of 21 March 2016 defines the characteristics of low-risk installations.

Pursuant to Article 3 of this Decree, the Appendix to the Order of 19 August 2016 draws the list of low-risk sites for which an operator's liability amount is reduced.

The list includes:

- the Aube waste disposal facility (Centre de stockage de l'Aube) (CSA), operated by Andra;
- the Manche disposal facility (Centre de stockage de la Manche) (CSM), operated by ANDRA;
- the industrial facility for grouping, storage and disposal (Centre industriel de regroupement, d'entreposage et de stockage) (CIRES), operated by Andra;
- the facility for the decontamination and repackaging of radioactive materials and substances by means of various processes (Installation de décontamination et de reconditionnement par divers traitements de

17. J.O.L. et D., 16 November 2016, text no. 6.

matériels et de substances radioactives) (TRIADE), operated by the Société des Techniques en Milieu Ionisant (STMI);

- the installation for the maintenance and decontamination of equipment (Centre d'entretien et de décontamination d'outillage) (CEDOS), operated by AREVA NP; and
- the equipment servicing centre (Centre de maintenance des outillages) (CEMO), operated by AREVA.

The Order of 10 November 2016 amends the list drawn in Order of 19 August 2016 to add:

- the Basic Nuclear Installation (INB No. 138) operated by SOCATRI;
- the Basic Nuclear Installation (INB No. 143) operated by SOMANU; and
- the Basic Nuclear Installation (INB No. 160) operated by SOCODEI.

International co-operation

Decree No. 2016-1225 of 16 September 2016 making public the Protocol to the Co-operation Agreement between the Government of the French Republic and the Government of the Hashemite Kingdom of Jordan for the Development of the Pacific Uses of Nuclear Energy, signed in Paris on 27 August 2008[18]

This Decree makes public the Co-operation Agreement between the Government of the French Republic and the Government of the Hashemite Kingdom of Jordan for the Development of the Pacific Uses of Nuclear Energy, signed in Paris on 27 August 2008 and entered into force on 11 July 2016.

The Agreement aims to establish institutional and industrial co-operation between the parties and the entities they may designate in order to set up a responsible and sustainable civil nuclear programme in Jordan.

In this context, the Agreement provides for the creation of at least five topical working groups (such as the legal working group or the nuclear reactors working group) tasked with organising, initiating and following up on all the actions required for their activity, as well as negotiating and concluding other implementation arrangements or agreements as needed.

The objective of the legal working group is to support the implementation of the legal and administrative framework necessary to set up a civil nuclear programme in Jordan. The tasks of this working group include, among others:

- setting up the Jordanian Commission for the Organisation of Radiation Activities whose remit will include safety, security and physical protection, as well as protection against ionising radiations;
- drafting and implementing nuclear export control rules, taking into account the Directives of the Nuclear Suppliers Group, in particular;
- setting up a nuclear material control mechanism and organisation, and the related accounting procedures;
- implementing safeguards according to IAEA's criteria; and

18. J.O.L. et D., 18 September 2016, text no. 4.

- defining a national framework for nuclear liability based on established international principles.

Germany

Transport of radioactive materials

New Versions of Ordinances on the Transport of Dangerous Goods (2017)

By the Ninth Ordinance to Amend Ordinances on the Transport of Dangerous Goods of 17 March 2017,[19] the following Ordinances were amended:

- Article 1: Dangerous Goods Ordinance Road, Rail and Internal Waterways;
- Article 2: Safety Adviser for the Transport of Dangerous Goods Ordinance;
- Article 3: Dangerous Goods Cost Ordinance;
- Article 4: Dangerous Goods Exception Ordinance.

The Ordinance implements Commission Directive (EU) 2016/2309.[20]

The amendments entered into force on 1 January 2017.

In accordance with Article 5 of the Ninth Ordinance, a consolidated version of the Ordinance on the Domestic and Transboundary Transport of Dangerous Goods by Road, Rail and Internal Waterways (Dangerous Goods Ordinance Road, Rail and Internal Waterways) was published by the competent Federal Minister on 30 March 2017.[21]

Radioactive Waste Management

Act on the Reorganisation of the Responsibility of Nuclear Waste Disposal (2017)

The 2016 Draft Bill of an Act on the Reorganisation of the Responsibility of Nuclear Waste Disposal[22] passed Parliament on 27 January 2017 and was published in the *Bundesgesetzblatt*.[23] According to its Article 10, the Act will enter into force on the day the EU Commission grants its state aid approval or bindingly notifies that such approval is not required. The competent Federal Minister will inform on the day of the entry into force in *Bundesgesetzblatt*.

19. *Bundesgesetzblatt* (BGBl.) 2017 I, p. 568. The Ordinance is available (in German) at: www.bgbl.de/xaver/bgbl/start.xav?startbk=Bundesanzeiger_BGBl&start=%2F%2F%2A%5B%40attr_id=%27bgbl117s0711.pdf%27%5D#__bgbl__%2F%2F*%5B%40attr_id%3D%27bgbl117s0568.pdf%27%5D__1491669479013.
20. Commission Directive (EU) 2016/2309 of 16 December 2016 adapting for the fourth time the Annexes to Directive 2008/68/EC of the European Parliament and of the Council on the inland transport of dangerous goods to scientific and technical progress, Official Journal of the European Union (OJ) L 345 (20 December 2016), p. 48.
21. BGBl. 2017 I, p. 711. The Ordinance is available (in German) at: www.bgbl.de/xaver/bgbl/start.xav?start=%2F%2F*%5B%40attr_id%3D%27%27%5D#__bgbl__%2F%2F*%5B%40attr_id%3D%27bgbl117s0711.pdf%27%5D__1491669201298. On the earlier, consolidated version, see NEA (2012), *Nuclear Law Bulletin*, No. 89, OECD, Paris, p. 121.
22. See NEA (2016), *Nuclear Law Bulletin*, No. 98, OECD, Paris, p. 73.
23. BGBl. 2017 I, p. 114. The Draft Bill is available (in German) at: www.bgbl.de/xaver/bgbl/start.xav#__bgbl__%2F%2F*%5B%40attr_id%3D%27bgbl117s0114.pdf%27%5D__1491734541927.

Lithuania

Nuclear security

Cyber security

An amendment to the nuclear safety requirements[24] introduced requirements for cyber security systems in operating organisations for ensuring the safety of technological processes, maintenance of functionality of equipment important to safety and maintenance of safety-related information. The amendment also includes other important safety-related provisions, such as: clarified classification and marking of security-related components; and more detailed provisions on lighting systems, handling of nuclear fuel at a unit, water chemistry, operation and accident management procedures, and routes of emergency evacuation. The amendment came into force on 1 May 2017.

Nuclear installations

Free release criteria of buildings and site of nuclear facilities

New nuclear safety rules[25] were approved by the Head of the State Nuclear Power Safety Inspectorate (VATESI) in 2016 and came into force on 1 May 2017. The new rules established the methodology for demonstrating compliance with free release criteria. The rules are applied for the free release of buildings and soil of nuclear facilities and include requirements for all stages of radiological surveying: planning, conducting, evaluating and recording.

Management systems

An amendment to the nuclear safety requirements[26] was approved in January 2017 by the Head of VATESI. The amendment introduces more detailed requirements for the programme of tests and inspections of the structures, systems and components important to safety performed during the construction of nuclear facilities, and for the transfer of structures, systems and components important to safety from the construction to the commissioning stage. The amendment came into force on 1 May 2017.

24. Order No. 22.3-16 (2017) of the Head of the State Nuclear Power Safety Inspectorate "On the Amendment of Order No. 22.3-16, 5 February 2010, On the approval of Nuclear Safety Requirements BSR-2.1.2-2010 "General Requirements on Assurance of Safety of Nuclear Power Plants with RBMK-1500 Type Reactors", available (in Lithuanian) at: www.e-tar.lt/portal/lt/legalAct/b05c9e00e6f311e68503b67e3b82e8bd.
25. Order No. 22.3-206 (2016) of the Head of the State Nuclear Power Safety Inspectorate "On the Approval of Nuclear safety rules BST-1.5.1-2016 "Evaluation of Compliance with Free Release Criteria of Buildings and Site of Nuclear Facilities", available (in Lithuanian) at: www.e-tar.lt/portal/lt/legalAct/d4591650c68f11e69dec860c1f4a5372.
26. Order No. 22.3-14 (2017) of the Head of the State Nuclear Power Safety Inspectorate "On the Amendment of Order No. 22.3-22, 29 January 2014, On the approval of Nuclear Safety Requirements BSR-1.4.2-2014 "Management of Construction of Nuclear Facility", available (in Lithuanian) at: www.e-tar.lt/portal/lt/legalAct/e7308460e20111e68503b67e3b82e8bd.

Radioactive waste management

Safety of radioactive waste repositories

New nuclear safety requirements for radioactive waste repositories[27] were approved by the Head of VATESI in 2016 and came into force on 1 May 2017. The new requirements regulate site assessment, design, commissioning, operation, closure and supervision of closed radioactive waste repositories. In comparison to the previous nuclear safety requirements related to radioactive waste repositories, the new requirements cover all types of radioactive waste repositories (very low level, low and intermediate level and geological) to be constructed in Lithuania. More detailed requirements were introduced on waste acceptance criteria, safety analysis, design, closure and supervision of closed radioactive waste repositories. Additionally, detailed requirements for site evaluation and commissioning of radioactive waste facilities were introduced.

Slovak Republic

General legislation, regulations and instruments

Amendment to the Atomic Act

On 11 April 2017, the President of the Slovak Republic signed an amendment to the Atomic Act.[28] This amendment primarily transposes the 2014 Amendment to the Nuclear Safety Directive[29] and selected provisions of the Euratom Basic Safety Standards Directive.[30] Furthermore, it implements the recommendation contained in the draft findings and recommendations of the Aarhus Convention[31] Compliance Committee with regard to communication ACCC 2013/89/Slovakia. This communication dealt with the extent of disclosure of the environmental documentation containing sensitive information on the design of a nuclear power plant (Mochovce) in commissioning, as well as particular issues closely connected to the implementation of e-Government measures related to the statutory activities of the Nuclear Regulatory Authority of the Slovak Republic.

In general, the amendment governs these issues:

- setting the nuclear safety objective for existing and new nuclear installations in the Slovak Republic and its implementation;
- adapting the prospect for periodic safety reviews to the requirements defined by the Nuclear Safety Directive;

27. Order No. 22.3-188 (2016) of the Head of the State Nuclear Power Safety Inspectorate "On the approval of Nuclear Safety Requirements BSR-3.2.2-2016 "Radioactive waste Repository", available (in Lithuanian) at: www.e-tar.lt/portal/lt/legalAct/b55b1280b6d611e6aae49c0b9525cbbb.
28. Act No. 541/2004 Coll. on the Peaceful Use of Nuclear Energy and on alterations of and amendments to some other acts (Atomic Act).
29. Council Directive 2014/87/Euratom of 8 July 2014 amending Directive 2009/71/Euratom establishing a Community framework for the nuclear safety of nuclear installations, *Official Journal of the European Union* (OJ) L 219 (25 July 2014).
30. 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 January 2014).
31. Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (1998), 2161 UNTS 450, entered into force 30 October 2001 (Aarhus Convention).

- specifying the requirements applicable to the on-site emergency preparedness and response (including the activities of the point of contact for communication in this field) defined by the Nuclear Safety Directive and the Basic Safety Standards Directive;
- enabling the submission of applications according to the Atomic Act through electronic means; and
- adjusting the extent of the disclosure of documentation containing sensitive information to general public.

Slovenia

General legislation, regulations and instruments

Amendments to the Ionising Radiation Protection and Nuclear Safety Act

Based on the amendments to the Ionising Radiation Protection and Nuclear Safety Act (the Act) that were adopted at the end of 2015,[32] a number of implementing Rules and one implementing Decree were adopted from December 2016 to March 2017.

With the amendments to the Act as well as to the implementing Rules and implementing Decree, the provisions of the 2014 Amended Safety Directive,[33] the Waste Directive[34] and the Euratom Basic Safety Standards[35] have been transposed to a considerable extent into the Slovene legal framework.

Nuclear safety and radiological protection (including nuclear emergency planning)

Decree on activities involving radiation[36]

A Decree on activities involving radiation regulates the:

- types of radiation sources that do not require notification, and the radiation sources with small amounts of radioactive substances or low specific activity that do not exceed the exemption levels, and treatment of radiation sources that are exempt from control under the law governing radiation protection and nuclear safety;
- types of radiation practices that do not require notification;
- criteria for the classification of each part of radiation practices involving the use of unsealed sources;

32. For more information on these amendments, see NEA (2015), *Nuclear Law Bulletin*, No. 96, OECD, Paris, pp. 90-92.
33. Council Directive 2014/87/Euratom of 8 July 2014 amending Directive 2009/71/Euratom establishing a Community framework for the nuclear safety of nuclear installations, *Official Journal of the European Union* (OJ) L 219 (25 July 2014) (2014 Amended Safety Directive).
34. Council Directive 2011/70/Euratom of 19 July 2011 establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste, OJ L 199 (2 August 2011) (Waste Directive).
35. 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 January 2014) (Euratom Basic Safety Standards).
36. *Official Gazette of the Republic of Slovenia* (RS), No. 8/2017, p. 1152.

- criteria for the classification of high-activity and dangerous sources of radiation;
- clearance levels and the criteria for conditional clearance of certain radioactive substances arising from any practice subject to notification or authorisation that may be released from the requirements in the Decree;
- types of radiation practices that require a licence;
- types of radiation sources that have to be registered;
- types of radiation sources that require a licence;
- criteria for the classification of: radiation facilities and less important radiation facilities;
- radioactive substances that are subject to physical protection measures; and
- criteria for the period of validity of licences to carry out radiation practices, to use radiation source and to operate a radiation or nuclear facility.

The individual values of specific activities for exemption or clearance for natural and artificial radionuclides, the values for high-activity radioactive sources and the values for dangerous sources and quantities of nuclear materials to be transported are set out in the Annex to this Decree.

This Decree entered into force on 4 March 2017, i.e. 15 days after its publication in the *Official Gazette of the Republic of Slovenia*. Upon entry into force of this decree, the previous decree on activities involving radiation[37] ceased to apply.

Rules on radiation and nuclear safety factors[38]

The Rules on radiation and nuclear safety factors provide the:

- design bases for radiation and nuclear facilities;
- content of the application and documentation for obtaining approvals and permits for radiation, nuclear and less important radiation facilities;
- content of the safety analysis report and other documentation necessary to demonstrate and ensure the safety of radiation and nuclear facilities;
- detailed requirements for the organisation of a radiation or nuclear facility and on the content and format of the management system and its implementation in radiation and nuclear facilities; and
- detailed requirements as to the nature, scope, method of protection and preservation of documents of the operator of a radiation or nuclear facility.

These Rules entered into force on 10 December 2016, i.e. fifteen days after its publication in the *Official Gazette of the Republic of Slovenia*. Upon entry into force of this decree, the previous rules on radiation and nuclear safety factors[39] ceased to apply.

37. *Official Gazette of the RS*, No. 48/2004 and 9/2006.
38. *Official Gazette of the RS*, No. 74/2016, p. 10310.
39. *Official Gazette of the RS*, No. 92/2009 and 9/2010.

Rules on operational safety of radiation and nuclear facilities[40]

The Rules on operational safety of radiation and nuclear facilities provides for radiation and nuclear facilities detail the:

- method of operating limits and conditions;
- manner and frequency of reporting on the implementation of the programme for collecting and analysing operating experience;
- scope and nature of ageing management;
- method of maintenance, testing and inspection of components, systems and structures;
- content, scope and frequency of regular and *ad hoc* reporting;
- frequency, content, scope, duration and mode of implementation of periodic safety reviews and the manner of reporting on these reviews;
- cases in which the regulatory body (SNSA) itself orders a periodic safety review, if new and important evidence of radiation or nuclear safety of the facility exists;
- content, quality and use of probabilistic safety analyses to verify the safety of nuclear installations; and
- methodology for assessing and classifying changes and the manner and form of information and notification of changes in radiation or nuclear facilities.

These Rules also lays down specific requirements for the:

- emergency plan to cope with emergencies in radiation or nuclear facilities;
- procedures in case of emergency in radiation or nuclear facilities; and
- method of notification for emergencies.

This Rules entered into force on 31 December 2016, i.e. fifteen days after its publication in the *Official Gazette of the Republic of Slovenia*. Upon entry into force of this decree, the previous rules on operational safety of radiation and nuclear facilities[41] ceased to apply.

Rules on the method of keeping records of personal doses due to exposure to ionising radiation[42]

The Rules on the method of keeping records of personal doses due to exposure to ionising radiation provides the:

- method of managing data of personal doses of exposed workers;
- deadlines for data transmission to the central dose register;
- liabilities and the method of transmission of data from the central dose register to the body responsible for nuclear safety, vulnerable workers and employers; and

40. *Official Gazette of the RS*, No. 81/2016, p. 11969.
41. *Official Gazette of the RS*, No. 85/2009, 9/2010 and 87/2011.
42. *Official Gazette of the RS*, No. 81/2016, p. 11939.

- content, scope and manner of reporting and management of data for radiological procedures.

These Rules entered into force on 31 December 2016, fifteen days after its publication in the *Official Gazette of the Republic of Slovenia*. Upon entry into force of this decree, the previous rules on the method of keeping records of personal doses due to exposure to ionising radiation[43] ceased to apply.

Rules on the requirements and methodology of dose assessment for the radiation protection of the population and exposed workers[44]

The Rules on the requirements and methodology of dose assessment for the radiation protection of the population and exposed workers provides the:

- conditions for issuing permits in cases where the planned doses exceed the thresholds for each exposed worker who performs extraordinary tasks, and mandatory measures to be taken in order to reduce the effects of excessive exposure to the worker;
- content and scope of the assessment of radiation protection;
- terms and conditions for the review of the assessment of radiation protection, mandatory reviews of the contents of the assessment of radiation protection and other conditions relating to the obligation to review the assessment of radiation protection;
- methodology for assessing the doses due to external ionising radiation doses due to the intake of radioactive substances into the body;
- threshold doses, if workers or members of the public are exposed to radon; and
- method of data collection, storage relating to measurements of external doses, the methodology for assessing the intake of radionuclides and radioactive contamination as well as the methodology for assessing the doses received by reference groups and by the population as a whole, in relation to the preparation of the report on the estimates of the population doses.

These Rules entered into force on 7 January 2017, i.e. fifteen days after its publication in the *Official Gazette of the Republic of Slovenia*. Upon entry into force of this decree, the previous rules on the requirements and methodology of dose assessment for the radiation protection of the population and exposed workers[45] ceased to apply.

Rules on the obligations of persons performing radiation practices and holders of ionising radiation sources[46]

The Rules on the obligations of persons performing radiation practices and holders of ionising radiation sources provides the:

- criteria for the classification and labelling of worksites in supervised and controlled areas and working conditions and the employer's obligation for the control of radiation protection in supervised and controlled areas;

43. *Official Gazette of the RS*, No. 33/2004.
44. *Official Gazette of the RS*, No. 83/2016, p. 12302.
45. *Official Gazette of the RS*, No. 115/2003.
46. *Official Gazette of the RS*, No. 3/2017, p. 400.

- criteria for the classification of exposed workers in Categories A and B in relation to the expected exposure to ionising radiation during normal work and the probability and extent of potential exposure;
- conditions, method, scope and frequency of detection of radiation in the workplace;
- evaluation method of doses received in cases where direct measurements are not possible;
- type and quality of the measuring equipment;
- manner and scope of reporting of the results of assessing the exposure of workers and the doses received in the case of implementation of intervention measures and in the cases where permitted dose limits are exceeded due to the performance of exceptional tasks;
- manner and the time of data storage of the exposed workers to be provided by the employer;
- employer's obligations for special radiation protection for apprentices and students;
- organisational design of the radiation protection unit in nuclear and radiation facilities and the requirements for the quality of the equipment, the scope and content of the work of such unit;
- list of educational programmes and the programme and the method of examination for the professional exam for those performing radiation protection tasks, the method of determining the examination boards, the cost of examinations and recording of exams;
- scope, content and conditions for training, informing and verifying the qualifications of exposed workers, apprentices and students;
- obligations of licence holders and external service providers regarding radiation protection of outside workers and mode of transmission and storage of data on personal doses of exposed persons of external contractor in the central dose records; and
- scope, contents and conditions of training in the field of radiation protection of patients.

These Rules entered into force on 4 February 2017, i.e. fifteen days following its publication in the *Official Gazette of the Republic of Slovenia*. Upon entry into force of this decree, the previous rules on the obligations of persons performing radiation practices and holders of ionising radiation sources[47] ceased to apply.

Sweden

General legislation, regulations and instruments

Major revision of the Swedish Radiation Safety Authority's regulations

The Swedish Radiation Safety Authority (SSM) is currently revising regulations related to nuclear activities and radiation protection. Experience has demonstrated the need to clarify and broaden the regulations in order to create more predictability

47. *Official Gazette of the RS*, No. 13/2004.

for the licensees and to improve the regulatory support for the SSM in its supervisory activities.

In parallel with the SSM regulatory review, the Swedish Act on Nuclear Activities and the Act Radiation Protection are being reviewed to ensure that the latest Euratom Directives in the area of nuclear safety and radiation protection are appropriately implemented in Swedish legislation. In this regard, as requested by the government, the SSM has presented proposals for a new Radiation Protection Act and changes to the Act on Nuclear Activities. These proposals are undergoing extensive consultations and potential changes will be made in accordance with the time schedule for implementation, as defined by each Directive.

In 2013, the SSM began a comprehensive and thorough review of its Code of Statutes. The main reasons for initiating this review were as follows:

- In June 2012, an application was submitted to SSM by Vattenfall for permission to replace old nuclear power reactors with new nuclear power reactors. Existing regulations are developed for operating nuclear power plants (NPPs) and new nuclear power reactors were not considered at the time these regulations were developed and issued.

- SSM's own application experience has demonstrated the need to clarify and supplement the regulations in order to create more predictability for the licensees and improve the regulatory support for SSM in its supervisory activities. These clarifications and additions are necessary in a situation where continuing safety modernisation of the existing NPPs will take place and where the plants now gradually enter into long-term operation. The regulations also need to be revised to encompass experiences from the Fukushima Daiichi NPP accident and subsequent stress tests of Swedish NPPs.

- The International Atomic Energy Agency (IAEA) Integrated Regulatory Review Service (IRRS) mission report to Sweden in spring 2012 concluded that Swedish regulations for nuclear facilities have, historically, emerged as the need for regulation arose. The report also notes that the IAEA safety standards were used as the basis for the Swedish nuclear safety rules or referenced therein, but not in a systematic way. Therefore, the report recommended that the SSM review the existing regulatory framework and make it clearer, more consistent and comprehensive. This is now one important part of the SSM action plan to deal with recommendations and suggestions from the IRRS review.

The work is conducted in two projects: one focusing on the regulations on safety and security of nuclear facilities, one focusing on safety and security in the use of ionising and non-ionising radiation in other parts of society. The work also includes the formulation of basic safety and security rules that will be common to both nuclear installations and other licensable activities with radiation.

The structure adopted for the new Code of Statutes means that the safety and security of nuclear installations will be regulated partly for different stages of a plant's life and partly for the main types of specific radiation safety aspects. The regulation will also be made on the "three levels":

1. common to all activities involving ionising radiation;
2. on plant level for nuclear installations; and
3. more specific safety and security aspects.

In this way there will be a gradual specification of the requirements, from a more general level at level one to a more specific at level three, in a similar way as the IAEA and many other radiation safety agencies have built up their rule packages.

Important starting points for the work are the applicable Swedish and European legislation in the field, the current SSM rules and lessons learnt from applications in licensing and supervision activities. Other important starting points are as far as possible to relate to the IAEA's "Fundamentals", "Requirements", "Safety Guides" and "Security Series". There are several reasons for this. One is that these standards are of high quality and are produced in a process in which many international experts in various disciplines are involved. This makes the standards well-founded. Another reason is that some of these standards are the basis for the so-called reference levels ("Reactor Safety Reference Levels") that have been developed through inter-agency co-operation within the Western European Nuclear Regulators Association (WENRA) that SSM has undertaken to comply with.

The work to revise SSM's regulations is an ongoing process.

United States

General legislation, regulations and instruments

Commission policy statement setting principles to use to promote effective government-to-government interactions with American Indian and Alaska Native Tribes and encourage and facilitate Tribal involvement in areas of NRC jurisdiction

On 9 January 2017, the Nuclear Regulatory Commission (NRC) published its Tribal Policy Statement,[48] which provides guidelines that achieve consistency but also encourage custom-tailored approaches to consultation and co-ordination that reflect the circumstances of each situation and the preference of each Tribal government.[49] Under the Atomic Energy Act of 1954, the NRC licences and regulates the United States' civilian use of radioactive material in order to protect public health and safety, common defence and security, and the environment. As part of its evaluation of proposed licensing actions, rulemakings or policy development, the NRC consults with Tribal governments as required under the National Historic Preservation Act and other federal statutes. Historically, these consultations have been consistent with the spirit of several Presidential initiatives, but the NRC had not previously formalised an Agency-wide policy statement because it approached each Tribal government consultation on a case-by-case basis. However, in May of 2012, the Commission requested the NRC staff to provide a proposed Policy Statement and protocol on consultation with tribal governments that follows the language and spirit of Presidential Memoranda and executive orders. After soliciting public comment on its development, the proposed Tribal Policy Statement was published for public comment on 1 December 2014.

This past January, the Commission published its final Tribal Policy Statement. The Tribal Policy Statement consists of six principles:

1. The NRC recognises the Federal Trust Relationship with and will uphold its trust responsibility to Indian Tribes.

48. 82 Federal Register 2402-2417, "Tribal Policy Statement" (9 January 2017). The Tribal Policy Statement is also available at: www.nrc.gov/docs/ML1701/ML17011A243.pdf.
49. The NRC recognises Tribal governments as dependent domestic sovereign nations, independent from State governments, with separate and distinct authorities with inherent sovereign powers over their members and territory, consistent with applicable statutes and authorities.

2. The NRC recognises and is committed to a government-to-government relationship with Indian Tribes.
3. The NRC will conduct outreach to Indian Tribes.
4. The NRC will engage in timely consultation.
5. The NRC will coordinate with other Federal Agencies.
6. The NRC will encourage participation by state-recognised tribes.

The NRC expects all of its offices to consult and co-ordinate with Indian Tribes consistent with the Tribal Policy Statement.

Nuclear installations

NuScale Power, LLC submits design certification application for small modular reactor (SMR) to the NRC

On 12 January 2017, the NRC received a complete design certification application from NuScale for its SMR design. NuScale's application is for a standard design certification pursuant to Section 103 of the Atomic Energy Act of 1954, as amended, and Part 52 of Title 10 of the Code of Federal Regulations (CFR). NuScale's SMR design is a pressurised-water reactor and is based on the Multi-Application Small Light Water Reactor, which was developed in the early 2000s at Oregon State University. The SMR is a natural-circulation, light water reactor with a core and steam generator in a common reactor vessel, which is in a cylindrical steel containment. Each module is immersed in water in a safety-related pool, which is located below ground and designed to hold up to 12 modules. Each module has an electrical output of 50 megawatts; total plant electrical output with all 12 modules would be 600 megawatts.

The NRC staff started a detailed technical review of the design certification application on 30 March 2017.

NRC issues licences to three facilities

Over the past six months, the NRC issued licences for several mining and power production facilities. On 27 February 2017, the NRC issued a licence to AUC, LLC, a uranium mining company, for its Reno Creek Uranium In-Situ Recovery Facility, which is located in Campbell County, Wyoming. Additionally, on 19 December 2016, the NRC issued a Combined License (COL) to Duke Energy Carolinas, LLC for the William States Lee III Nuclear Station, Units 1 and 2. The William States Lee III Nuclear Station is located near Gaffney, South Carolina and uses part of the previously licensed, but uncompleted, Cherokee Nuclear Power Plant site (which was used as a film set for the 1989 James Cameron film The Abyss). Finally, on 26 October 2016, the NRC issued a COL to Duke Energy Florida, LLC for the Levy Nuclear Plant, Units 1 and 2, which will be located in Levy County, Florida.

Nuclear safety and radiological protection (including nuclear emergency planning)

NRC publishes draft guidance document for the development of principal design criteria for non-light water cooled nuclear reactors

On 3 February 2017, the NRC published draft guidance documents regarding the development of principal design criteria for non-light water cooled reactors. These principal design criteria establish the necessary design, fabrication, construction, testing and performance requirements for those structures, systems and components that provide reasonable assurance that a non-light water plant can operate without undue risk to the health and safety of the public.

Currently, design criteria for light water cooled reactors are in Title 10, Part 50, Appendix A of the CFR. However, because the design criteria in the CFR are specific for light water cooled reactors, the Department of Energy (DOE) and the NRC

established a joint initiative in 2013 to review these design criteria. As a result of the review, the NRC and DOE decided to develop the recently published new criteria to address the unique design features of non-light water cooled reactors. At the same time, these new design criteria are intended to be technology-neutral, with the expectation that they could apply to any type of non-light water cooled reactor.