The legislation in the Republic of Bulgaria which regulates the use of nuclear energy is considerable. This is due to diverse social relations, in addition to the fact that the main nuclear law is regulated by other laws and its details are developed through a number of regulations.

Very important is the role in these processes efficient management of human resources. Development and implementation of an intelligence system of enforcement is crucial, not only the expected effect on the affected public relations internally, but also as a means of fulfilling the obligations imposed as a result of Bulgaria’s membership in the EU.

Bulgaria’s membership in the European Union results in a requirement for the harmonization of legislation imposing screening of existing legislation, which is often reviewed and harmonized in accordance with the acquis communautaire.

Security of Information and risk management is an investment aimed at reducing operating costs or the costs of opening new sources of profit.

The boom of technologies and communications radically changed the world we live in. On one hand, innovations of communication technologies created possibilities for protecting fundamental human rights and freedoms by giving activists more voice as they were given new means of documenting abuses, and new ways for promoting their ideas. Just like experience from previous events shows us – events like the uprising of the „Arab Spring”; the attacks that took place on European territory, in Bulgaria (Burgas) in 2012, in France (Paris, Nice) and Belgium in 2014, 2015 and 2016; the latest events in Turkey (the acts of terrorism in Istanbul and the military coup attempt on July 15); the armed uprising in Armenia and the events in Kazakhstan (the attempted mutiny) in 2016 – smartphones and social media improved access to information for all members of society; they provided greater freedom of expression and encouraged citizen participation in political processes. On the other hand, however, digital revolution also brought up new great challenges in the area of human rights protection. The Internet assists and facilitates terrorist networks like those of Al-Qaeda and ISIS in spreading their beliefs and planning destruction of life and property.

Challenges to national security today need answers that combine aspects of domestic and foreign policy. In modern terms of potential dangers and threats to national security, the gathering of early information is crucial for ensuring the security environment in Bulgaria.

In the field of nuclear energy, applicable regulations differ according to their rank, character and content.

In this study I will briefly present the fundamental constitutional norms, acts and regulations governing legal risk management in the use of nuclear energy.

The Constitution of the Republic of Bulgaria is the basis of the legal regulation of the use of nuclear energy. Under Article 18(4) of the Constitution, a state monopoly may be established by statute on the use of nuclear energy and the manufacture of radioactive products.

According to the Article on the safe use of nuclear energy consistent with the Constitution, there is a state monopoly on the use of nuclear energy and radioactive waste becomes state property at the time of transmission to the state enterprise „Radioactive Waste”.

Under Article 105(1) of the Constitution, the Council of Ministers shall direct and implement the domestic and foreign policy of Bulgaria. The Chairman of the Nuclear Regulatory Agency
shall be designated by a decision of the Council of Ministers and shall be appointed by the Prime Minister for a period of five years.

The Chairman of the Agency carries out state regulations regarding the safe use of nuclear energy, including the risks associated with this activity. The Chairman is an independent specialized authority of the executive branch. In the exercise of the powers thereof, two Deputy-Chairmen shall assist the Chairman. The two deputies shall be designated by a vote of the Council of Ministers on a motion from the Chairman, and shall be appointed by the Prime Minister.

Under Article 5 (4) of the Constitution, any international treaty which has been ratified according to a procedure established by the Constitution, which has been promulgated, and which has entered into force in the Republic of Bulgaria, shall be part of the domestic law of the land. Any such treaty shall take priority over any conflicting standards of domestic legislation.

In accordance with this provision, international treaties regarding the regulation of risk associated with the use of nuclear energy are the following:

- Treaty on the non-proliferation of nuclear weapons \(^8\) (entered into force in Bulgaria on 5.03.1970). According to this treaty, each non-nuclear weapon State Party to the Treaty like Bulgaria undertakes not to receive a transfer from any transferor whatsoever of nuclear weapons or other nuclear explosive devices or of control over such weapons or explosive devices directly, or indirectly; not to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices; and not to seek or receive any assistance in the manufacture of nuclear weapons or other nuclear explosive devices. Each non-nuclear weapon State Party, including Bulgaria, undertakes to accept the safeguards set forth in an agreement to be negotiated and concluded with the International Atomic Energy Agency in accordance with the Statute of the International Atomic Energy Agency and the Agency’s safeguards system, for the exclusive purpose of verification of the fulfillment of its obligations assumed under the Treaty with a view to preventing diversion of nuclear energy from peaceful uses to nuclear weapons or other nuclear explosive devices. Practical measures to prevent the risk of diversion of nuclear material could be achieved mainly through the physical protection of nuclear facilities in order to cope with threats, to recover stolen material or to punish those responsible for such actions.

- The Vienna Convention on civil liability for nuclear damage \(^9\) (entered into force in Bulgaria on 27.07.1994). The possibility of cross-border nuclear damage requires an international regime of nuclear liability. The Vienna Convention governs the legal framework of a special regime of responsibility and covers the risk of damage in case of accidents at nuclear facilities or during transport of nuclear material. The basic principles and content of the Convention are internationally accepted as legal ways of dealing with nuclear risks.

- Convention on the physical protection of nuclear material \(^10\) (entered into force in Bulgaria on 08.02.1987). This Convention is the only legally binding international instrument in the field of protection of nuclear material from harmful attacks. The Convention provides protection of nuclear material outside the nuclear facility (not only during international transport but also in use), as well as storage and transportation of nuclear material within the country. The Convention defines the content of the legal term „nuclear material“. However, this term does not cover the entire spectrum of radioactive waste, and this is particularly important when taking international transport into account. The choice of protection is not uniform. Each State Party to the convention regulates the type of protection within their national legislation. This fact creates problems with the regulation of international transport.

- Convention on assistance in the case of a nuclear accident or radiological emergency \(^11\) (entered into force in Bulgaria on 30.12.1987). The accident at the Chernobyl nuclear power plant in 1986 showed the extent of the risk to the world. Many countries consequently decided to use nuclear energy for peaceful purposes only. By joining the Convention, Bulgaria undertook to cooperate in case of nuclear damage or radiological emergency with the other States’ Parties and the International Atomic Energy Agency. According to Article 2 of the Convention, if a State Party needs assistance after a nuclear accident or radiological emergency, whether or not such an accident or emergency originates within its territory, jurisdiction or control, it may call for such
assistance from any other State Party. A State Party requesting assistance shall specify the scope and type of assistance required, and, where applicable, provide the assisting party with the necessary information to determine the extent to which it is able to meet the request. Each State Party to which a request for such assistance is directed shall promptly decide and notify the requesting State Party whether it is in a position to render the assistance requested and the scope and terms of the assistance that might be rendered.

- Convention on early notification of a nuclear accident\(^\text{12}\) (entered into force in Bulgaria on 30.12.1987). This convention shall apply in the event of any accident involving facilities or activities of a State Party (or a person or legal entities under its jurisdiction or control), from which a release of radioactive material occurs or is likely to occur and which has resulted or may result in an international trans-boundary release that could be of radiological significance for another State. The facilities and activities referred to in the scope of application are the following:
  - Any nuclear reactor wherever located;
  - Any nuclear fuel cycle facility;
  - Any radioactive waste management facility;
  - The transport and storage of nuclear fuels or radioactive wastes;
  - The manufacture, use, storage, disposal and transport of radioisotopes for agricultural, industrial, medical and related scientific and research purposes; and
  - The use of radioisotopes for power generation in space objects.

- Convention on nuclear safety\(^\text{13}\) (entered into force in Bulgaria on 14.09.1995). The purpose of this Convention is to enhance national measures and international cooperation to achieve and maintain a high level of nuclear safety. Nuclear facilities can be established and maintained through effective remedies against potential radiological danger. The aim of the Convention is to protect people and the environment from the harmful effects of ionizing radiation.

  Under Article 5 of the Convention, Bulgaria shall submit for review a report on the measures it has taken to implement each of the obligations of the convention.

  Bulgaria has established and maintained a legislative and regulatory framework to govern the safety of nuclear installations. Basic requirements regarding the safe use of nuclear energy and the regulations for its implementation are established by the aforementioned Article.

The accident at Fukushima nuclear plant resulted in specific measures to supplement international instruments in the field of safety, including the Convention on nuclear safety. Proposals for amendments to the Convention will be made in 2017.

- Joint Convention regarding the safety of spent fuel management and radioactive waste management\(^\text{14}\) (entered into force in Bulgaria on 10.05.2000). The objectives of this convention are:
  - To achieve and maintain a high level of safety worldwide in regards to spent fuel and radioactive waste management through the enhancement of national measures and international cooperation;
  - To ensure that during all stages of spent fuel and radioactive waste management there are effective defenses against potential hazards so that individuals, society and the environment are protected from the harmful effects of ionizing radiation, now and in the future, in such a way that the needs and aspirations of the present generation are met without compromising the ability of the future generation to meet its own needs and aspirations;
  - To prevent accidents with radiological consequences or to mitigate their consequences should they occur during any stage of spent fuel or radioactive waste management.

The Joint Convention has basic principles and a legal structure which are similar to those of the convention on nuclear safety, but its scope is limited to the management of spent fuel and radioactive waste.

According to supplementary provisions § 1 (27) of act on the safe use of nuclear energy, „spent fuel” is defined as nuclear fuel that has been irradiated in a reactor core and that has been permanently removed wherefrom. Under § 1(34) of the same act, „radioactive waste” is defined as a radioactive substance in a gaseous, liquid or solid form for which no further use is foreseen by the licensee or permit holder and which is controlled as radioactive waste by the Agency, including a radioactive source whereof the safe operating lifetime has ended according to the design documentation.
According to Article 75 of the Act regarding the safe use of nuclear energy, the Council of Ministers may declare spent fuel to be radioactive waste if conditions exist for safe storage and disposal of the spent fuel in an appropriate repository and the operating organization has paid a one-time contribution to the Radioactive Waste Fund.

One specific feature of the Convention is that safety measures for radioactive waste management are based on protection not only against radiological hazards, but also against biological and chemical hazards.

The content of the Convention clarifies that there is no obligation to provide zero risk, but rather establishes an obligation to adopt appropriate measures for institutional control after the closure of a disposal center for radioactive waste, according to Article 17, ii), iii) of the Convention.

Responsibility to future generations, when presented as the right of victims to demand compensation for the harm that they have suffered, is inappropriate for the management of radioactive waste. It is impossible for future generations to ask generations that stretch back thousands of years to claim compensation for damage caused.

In the nuclear field, in addition to conventions, bilateral and multilateral agreements are another mechanism for contact with the international community. These mechanisms are applicable when notifying other countries of a nuclear accident and when exchanging information on nuclear facilities with neighboring countries. Bulgaria has such governmental agreements with Greece, Turkey, Romania and Ukraine. In connection with shipments of nuclear materials Bulgaria also has multilateral agreements with the Russian Federation, the Republic of Moldova and the Cabinet of Ministers of Ukraine.

In addition, Bulgaria has signed agreements for cooperation in the peaceful uses of nuclear energy with the governments of the Russian Federation, the United States and the Republic of Argentina.

Matters related to the safe use of nuclear energy in the European Union are solved within the framework of a common policy. However, member states shall exercise their competence in this area.

European instruments in the field of risk management in the nuclear area are the following:

1. Treaty on the functioning of the European Union (entered into force in Bulgaria on 01.01.2007). According to Article 4 of the Treaty, shared competence between the Union and its Member States applies in the main areas of environment, energy and common safety concerns in public health matters, which are relevant to nuclear energy. Under Article 2(2) of the Treaty, the member states shall exercise their competence to the extent that the Union has not exercised its own competence.

According to Article 6 of the Treaty, the Union shall maintain the competence to carry out actions to support, coordinate or supplement the actions of the member states. Areas which are relevant to nuclear energy are: civil protection and the protection and improvement of human health.

2. Treaty establishing the European Atomic Energy Community (entered into force in Bulgaria on 01.01.2007). Bulgaria joined the European Union and the European Atomic Energy Community in 2007. The Treaty establishing the European Atomic Energy Community created specific obligations for Bulgaria regarding the safe use of nuclear energy and ionizing radiation:

- The Chairman of the Nuclear Regulatory Agency shall inform the European Commission about changes in Bulgarian legislation relating to the protection from effects of ionizing radiation;
- The Chairman shall notify the European Commission on the issue of licenses for the operation of a new nuclear facility;
- The European Commission may carry out inspections in the country in regards to the guarantees for non-proliferation of nuclear weapons.

The legal regime for radiological protection and nuclear safety in the European Community consists mainly of European directives. A directive is a legal act of European Union, which requires member states to achieve a particular result without dictating the means of achieving that result.

These directives contain standards for protection from radiation, health measures in case of medical exposure, radiation accidents, control of ionizing sources and procedures during the international transport of nuclear material.

The most important directives are as follows:

- Directive 2013/59/EURATOM of 5 December 2013 lays down basic safety standards for protection against the dangers arising from exposure to ionizing radiation[17]. Member states shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 6 February 2018.
Directive 2011/70/EURATOM of 19 July 2011 establishes a community framework for the responsible and safe management of spent fuel and radioactive waste. The subject matter of this Directive ensures that member states provide for appropriate national arrangements for a high level of safety in spent fuel and radioactive waste management to protect workers and the general public against the dangers arising from ionizing radiation. According to Article 7 of the Directive, member states shall ensure that the prime responsibility for the safety of spent fuel and radioactive waste management facilities and/or activities rests with the license holder. This responsibility cannot be delegated. Under Article 14 (3) of the Directive, member states shall periodically, and at least every 10 years, arrange for self-assessments of their national framework, competent regulatory authority, national program and implementation, and shall invite international peer review of their national framework, competent regulatory authority and/or national program with the aim of ensuring that high safety standards are achieved in the safe management of spent fuel and radioactive waste. The outcomes of any peer review shall be reported to the Commission and the other member states, and may be made available to the public where there is no conflict with security and proprietary information. The requirements of the Directive have been transposed into national law as follows: The Ordinance on the safety of radioactive waste management facilities and the Ordinance to ensure the safety of spent nuclear fuel.

Directive 2006/117/EURATOM of 20 November 2006 is comprised of the supervision and control of shipments of radioactive waste and spent fuel. The requirements of this Directive have been incorporated into national law by supplementary provisions, §1b of the Act on the safe use of nuclear energy and the Regulation on the procedure for issuing licenses and permits for safe use of nuclear energy. After the incorporation of the Directive is carried out, the transport of spent fuel from Kozloduy nuclear power plant to Russia for reprocessing will be controlled.

Directive 2009/71/EURATOM of 25 June 2009 establishes a Community framework for the nuclear safety of nuclear installations. According to Article 9(1) of the Directive, Bulgaria submitted its first report to the Commission on the implementation on the Directive in 2014. Pursuant to the report, the country was introduced to the Directive in legislation by the Act on the safe use of nuclear energy. The Act establishes a legal, regulatory and organizational framework, which provides a high level of nuclear safety and radiation protection in the use of nuclear energy. The Act on the safe use of nuclear energy creates an independent Nuclear Regulatory Agency for nuclear safety and radiation protection. This agency controls the activities related to the use of nuclear energy and applies sanctions for noncompliance.

Directive 2014/87/EURATOM of 8 July 2014 amends the Directive 2009/71/EURATOM, which established a community framework for the nuclear safety of nuclear installations. This document makes regulatory changes due to the nuclear accident at the Fukushima power plant in Japan. The new directive requires re-evaluation of measures to reduce the nuclear risk to a minimum and ensure the highest levels of nuclear safety. Bulgaria shall bring into force the laws, regulations and administrative provisions necessary to comply with the Directive by 15 August 2017.

The legislation at the national level related to the safe use of nuclear energy is as follows:

- The Act on the safe use of nuclear energy. The scope of the Act includes: general provisions, state regulation, authorization process, management of radioactive waste and spent fuel, regulatory control, special statutory areas, physical protection, emergency planning and preparedness, application of safeguards, civil liability for nuclear damage and administrative penalty provisions. In the supplementary provisions, there are definitions of specific terms. According to Article 13 of the Act, the Ministers of Health, the Environment and Water, the Interior, Defense, Agriculture and Food, Transport, Information Technology and Communications, Education, Youth and Science and the Chairman of the State Agency for National Security shall exercise specialized control in accordance with their competencies specified in the legislation.

Under Article 12 of the Act, state bodies, which by financing or in another manner are engaged with the promotion or use of nuclear energy or sources of ionizing radiation, shall not exercise any state regulatory functions with respect to nuclear safety and radiation protection.
According to Article 5(7) of the Act, the Nuclear Regulatory Agency’s Chairman shall carry out interactions with other competent authorities of the executive power who have been vested with regulatory and control functions related to the use of nuclear energy and ionizing radiation, and shall propose measures to the Council of Minister for co-ordination of such activities.

Chapter Three of the Act includes the authorization process for the use nuclear of energy or sources of ionizing radiation, the amount of fees collected for implementing regulatory activities and permits for various stages of construction of a nuclear facility.

According to Article 45 of the Act, a nuclear power plant shall be built pursuant to a decision of the Council of Ministers. A proposal to construct a nuclear power plant shall be submitted by the Minister of Energy, accompanied by an assessment of:

- Nuclear safety and radiation protection, environmental impact and physical protection;
- The social and economic significance of the construction of a nuclear power plant for the nation or for particular regions;
- Radioactive waste and spent nuclear fuel to be generated, as well as their management.

Where the operation of the nuclear power plant may impact the public and environment of another country, the Minister of Foreign Affairs shall notify the competent authorities of that country. The Minister shall provide, if so requested, all information those authorities may need for the evaluation and analysis of the potential impact of the plant on their territory regarding public safety and environmental protection.

Chapter four of the Act sets out the requirements for the safe management of radioactive waste and spent fuel, including the decommissioning of nuclear facilities.

Under Article 77 of the Act, licensees generating radioactive waste shall be obligated to deliver this waste to the „Radioactive Waste” State Enterprise within the time limits established by regulations. Licensees shall be responsible for the safe management of radioactive waste from the period of its generation until its delivery to the Enterprise. Radioactive waste shall become state property from the moment of its delivery to the „Radioactive Waste” State Enterprise.

According to Article 104 of the Act, special statutory areas shall be established around nuclear facilities and facilities with sources of ionizing radiation, including the associated subsoil and airspace. Special statutory areas shall be precautionary action and surveillance zones. They shall be established by an order of the Minister of Regional Development, in coordination with the Chairman of the Nuclear Regulatory Agency, or by a bilateral or multilateral international treaty in cases where the areas extend to any territories beyond the borders of the Republic of Bulgaria.

The physical protection of nuclear material and nuclear facilities is covered in Chapter Seven of the Act, which relates to the safe use of nuclear energy. More detailed regulations of this matter are established in the Ordinance on the physical protection of nuclear facilities, nuclear material and radioactive substances.

Emergency planning and preparedness are covered in Chapter Eight. The emergency planning measures shall be established by two types of emergency plans:

- For protection, which regulates the emergency planning areas and determines the actions to be taken by the competent authorities to protect the population, property and environment in the case of an accident;
- For the nuclear facility or for the site with sources of ionizing radiation, which determines the actions to be taken by the licensee for accident mitigation and remediation of consequences.

Terms and conditions for the development of emergency plans and their implementation are regulated in the Ordinance on emergency planning and emergency preparedness in case of nuclear and radiation accident.

The application of safeguards is covered in Chapter Nine of the Act. According to Article 124 of the Act, the Chairman of the Nuclear Regulatory Agency shall verify the implementation of the obligations, assumed in accordance with the Treaty on the non-proliferation of nuclear weapons, to prevent diversion of nuclear material to any manufacturer of nuclear weapons.

Civil liability for nuclear damage is covered in Chapter Ten of the Act. Under Article 129 of the Act, the Council of Ministers shall designate the licensee who, within the meaning of the Vienna Convention, is an operator of a nuclear installation, and the type and conditions of the financial security covering the liability of the operator for nuclear damage.

According to Article 5(3) of the Act, the Chairman of the Nuclear Regulatory Agency
shall supervise the fulfillment of safety requirements and standards related to the safe use of nuclear energy and ionizing radiation, radioactive waste management and spent fuel management, and conditions of licenses and permits issued, including the supervision of nuclear safety related high-risk equipment during the commissioning, operation and decommissioning of nuclear power plants.

Under Article 100 of the Act, the Chairman shall authorize designated officials from the administration of the Agency to exercise control under the Act regarding the safe use of nuclear energy and the secondary legislation on the application of the Act.

According to Article 5 (17) of the Act on the safe use of nuclear energy, the Chairman of the Nuclear Regulatory Agency cannot adopt regulations, but instead shall develop and submit suggestions to the Council of Ministers for adoption on the application of the Act on the safe use of nuclear energy and shall propose amendments and supplements, when the improvement of the legal framework is appropriate, taking into account operating experience, insights gained from safety analyses, and the development of science and technology.

Other laws which are relevant to preventive measures on the use of nuclear energy are: the Environmental Protection Act, the Law of Spatial Planning, the Energy Act, the Health Act, and the Safety, Health and Welfare at Work Act.

The legislation on the safe use of nuclear energy is characterized by dynamic and continuous updates. The basic law in the nuclear legislation is the Act regarding the safe use of nuclear energy. The Act was passed in 2002 and was amended more than twenty times. The legal risk management requires multi-level governance and therefore the basic act is complemented by regulations outlined in Ordinance 22 and the rules of the Nuclear Regulatory Agency.

**References**


4. Mutiny is a criminal conspiracy among a group of people (typically members of the military; or the crew of any ship, even if they are civilians) to openly oppose, change, or overthrow a lawful authority to which they are subject. The term is commonly used for a rebellion among members of the military against their superior officer(s), but can also occasionally refer to any type of rebellion against an authority figure.

5. The Islamic State of Iraq and the Levant (ISIL, IPA), also known as the Islamic State of Iraq and Syria (ISIS), Islamic State (IS) and by its Arabic language acronym Daesh is a Salafi jihadist militant group that follows a fundamentalist, Wahhabi doctrine of Sunni Islam.


9. Vienna convention on civil liability for nuclear damage; Date of adoption: 21 May 1963; Place of adoption: Vienna, Austria; Date of entry into force: 12 November 1977; Depositary Governments: International Atomic Energy Agency (IAEA).
Convention on the physical protection of nuclear material; Date of adoption: 26 October 1979; Place of adoption: Vienna, Austria; Date of entry into force: 8 February 1987; Depositary: International Atomic Energy Agency (IAEA).

Convention on assistance in the case of a nuclear accident or radiological emergency; Date of adoption: 26 September 1986; Place of adoption: Vienna, Austria; Date of entry into force: 26 February 1987; Depositary Governments: International Atomic Energy Agency (IAEA).

Convention on early notification of a nuclear accident; Date of adoption: 26 September 1986; Place of adoption: Vienna, Austria; Date of entry into force: 27 October 1986; Depositary Governments: International Atomic Energy Agency (IAEA).

Convention on nuclear safety; Date of adoption: 17 June 1994; Place of adoption: Vienna, Austria; Depositary Governments: International Atomic Energy Agency (IAEA).

Joint Convention on the safety of spent fuel management and on the safety of radioactive waste management; Date of adoption: 5 September 1997; Place of adoption: Vienna, Austria; Depositary Governments: International Atomic Energy Agency (IAEA).

15 OJ L 13/1, 17.1.2014.
18 OJ L 172/18, 2.7.2009.

Anotācija


Аннотация

Болгарское законодательство в области безопасного использования ядерной энергии построено на принципе иерархической пирамиды, где высшим законом является Конституция. Нормативным актом, который в долгосрочном плане регулирует риск в ядерной области, является Закон о безопасном использовании атомной энергии. Правовое регулирование риска дополнено обязательными документами для исполнения документами более низкого ранга – положениями и кодексами, которые содержат подробные правила. Болгарское ядерное законодательство должно непрерывно развиваться в соответствии с европейским законодательством. Нормативы в ядерной области являются технически детализированными. Развитие ядерных технологий требует частых изменений этих документов.