

Yuriy Korolev,

Doctor of Law, Associate Professor of the
Department of Theory of Law, International Law
and Private Law Kyiv International University
ORCID: <https://orcid.org/0000-0002-5600-8816>

GLOBAL DEBATE: ON NUCLEAR LAW

The International Atomic Energy Agency (IAEA) plays a unique role in the development and implementation of international nuclear law. This chapter contains a short examination of the regime of nuclear law and its four pillars, namely safety, security, safeguards and civil liability for nuclear damage. The development and utilization of nuclear energy is one of the greatest achievements of the 20th century. It has greatly enhanced the ability of humanity to understand and shape the world and had a significant impact on the development of technology and civilization.

To this end, nuclear energy offers unique advantages, but the associated risks and challenges of its further development and utilization must be addressed. Nuclear law is a powerful tool for regulating its development and responding to those risks and challenges.

Keywords: *International Atomic Energy Agency (IAEA), International nuclear law, Nuclear safety, Nuclear security, Safeguards, Civil liability for nuclear damage, Peaceful applications (of nuclear science and technology), Advanced reactors, Nuclear fusion.*

Корольов Ю.

Глобальна дискусія: ядерне право

Міжнародне агентство з атомної енергії (МАГАТЕ) відіграє унікальну роль у розробці та реалізації міжнародного ядерного права. Цей розділ містить короткий аналіз режиму ядерного права та його чотирьох стовпів, а саме: безпеки, гарантій та цивільної відповідальності за ядерну шкоду. Розвиток і використання ядерної енергії є одним із найбільших досягнень ХХ ст. Це значно розширило здатність людства розуміти та формувати світ і мало значний вплив на розвиток технологій і цивілізації. З цією метою ядерна енергія володіє унікальними перевагами, але необхідно враховувати пов'язані з нею ризики і виклики, пов'язані з її подальшим розвитком та використанням. Ядерне право є потужним інструментом регулювання її розвитку та реагування на ці ризики і виклики.

Розвиток ядерної законодавчої бази відображає зусилля щодо розгляду головних аспектів мирного використання ядерної енергії через комбінацію обов'язкових договорів, конвенцій та необов'язкових кодексів і вказівок. Ця складна система жорсткого та м'якого права створена як реакція на виклики часу. Подальший розвиток правового режиму вимагатиме більшої гармонізації та відданості забезпеченню прозорості інституцій на міжнародному та національному рівнях, а також їхньої готовності до конструктивного діалогу із зацікавленими сторонами. Юридичні консультанти будуть і надалі відігравати важливу роль у допомозі політикам і технічним експертам у розробці всеохопних та ефективних підходів до подальшого розвитку ядерної енергетики та її регулювання. Ключовими елементами цих дискусій мають бути довіра зацікавлених сторін, міцний інституційний потенціал та інтеграція міжнародних інструментів і стандартів на національному рівні.

Атомна енергетика є важливою складовою глобальної відповіді на зміну клімату. Вона забезпечує безперервне виробництво електроенергії та може подолати переривчастість відновлюваних джерел енергії (вітер і сонце).

Ключові слова: *Міжнародне агентство з атомної енергії (МАГАТЕ), Міжнародне ядерне право, ядерна безпека, гарантії, цивільна відповідальність за ядерну шкоду, мирне застосування (ядерної науки та технологій), удосконалені реактори, ядерний синтез.*

Statement of the problem. At its very foundation lies the International Atomic Energy Agency (IAEA), dedicated to ensuring the resilience and adaptability of this essential resource amidst the dynamic landscape of technological advancements, opportunities, and challenges [1]. Much like how IAEA inspections safeguard against the diversion of nuclear material for weapons proliferation, and its scientists aid Member States in leveraging nuclear science and technology for diverse applications such as medicine, agriculture, and environmental conservation – including combatting plastic pollution and zoonotic diseases like COVID-19 – nuclear law and its custodians

establish the vital normative framework that underpins the entire enterprise. Beyond ensuring that the IAEA serves as an unwavering, steadfast, impartial, equitable, and transparent steward of the global safeguards regime, three key objectives within the legal domain have been outlined for myself as Director General: actively striving to fortify the existing legal and normative framework; assisting States in adhering to the laws, standards, and norms that safeguard our collective well-being and enable us to harness the myriad benefits of nuclear technology; and fostering proactive collaboration among all stakeholders, including the IAEA [2], in shaping the future landscape of international nuclear legal instruments.

The state of research of the problem. The Fukushima Daiichi Nuclear Power Plant accident underscored the critical importance for the international community to foster a shared understanding among nations and, whenever feasible, a unified approach to Emergency Preparedness and Response (EPR), even for nuclear incidents occurring at considerable distances across the globe. Acknowledged as a pivotal step towards achieving harmonization in EPR, broad compliance with IAEA Safety Standards is paramount. The imperative for cross-border coordination and harmonization of EPR arrangements is firmly established in pertinent international legal instruments and standards. As an increasing number of countries worldwide embark on the development of new nuclear power programs and the construction of Nuclear Power Plants (NPPs), discussions aimed at harmonizing EPR strategies at bilateral and regional levels assume heightened significance. A coordinated response across nations in the event of a nuclear incident is indispensable. The Chernobyl nuclear power plant accident on April 26, 1986, served as a clarion call to the international community, prompting the adoption of enhanced standards of nuclear safety at both the international and national levels. Operators meticulously reviewed their reactor operations and forged communication channels that transcended even the deeply entrenched political divisions of the Cold War era, fostering a global ethos prioritizing safety—a legacy that continues to endure. Chernobyl also precipitated the establishment of an international legal framework in this arena, encompassing four treaties adopted under the auspices of the Agency. Additionally, it played a pivotal role in bolstering the IAEA's mandate in nuclear safety.

Presentation of the main research material. Although adherence to both post-Chernobyl safety conventions is relatively high, there are still nearly 50 IAEA Member States that have not yet become parties to these essential instruments. Our ongoing mission is to continually raise awareness about why all States should accede to these instruments. Crucially, these Conventions serve as the legal framework for the international Emergency Preparedness and Response (EPR) system and are bolstered by operational arrangements that serve as the practical mechanisms through which the IAEA, its Member States, and other international organizations maintain emergency preparedness and effectively respond to any nuclear or radiological incident or emergency. When we discuss nuclear law, we are referring to a body of law that encompasses not only legally binding international treaties but also legally non-binding instruments and standards of conduct, which wield significant normative influence. In cases where consensus for a treaty is lacking, such legally non-binding instruments can offer a valuable alternative, capable of being adopted and updated more swiftly, providing simplicity and flexibility to address current needs.

The accident at the Fukushima Daiichi Nuclear Power Plant in Japan on March 11, 2011, stands as the second most impactful event in the history of nuclear energy. Despite this, leading international scientists have not detected any radiation-induced health effects resulting from it. Following the incident, all Member States of the International Atomic Energy Agency (IAEA) unanimously endorsed an Action Plan on Nuclear Safety. In 2014, the IAEA launched the Integrated Review Service for Radioactive Waste and Spent Fuel Management, Decommissioning, and Remediation (ARTEMIS). The Action Plan, approved by the IAEA Board of Governors on September 13, 2011, and endorsed by the IAEA General Conference during its 55th regular session in the same year, included several actions aimed at improving the effectiveness of the international legal framework on nuclear safety and strengthening IAEA peer reviews and safety standards. Moreover, the Parties to the Convention on Nuclear Safety (CNS) adopted the Vienna Declaration on Nuclear Safety in 2015, which has since become an integral component of the CNS review process.

The Vienna Declaration plays a crucial role in strengthening the CNS's aim of preventing accidents with radiological consequences and enhancing mitigation strategies in the event of such incidents. Parties to both the CNS and the Joint Convention took steps to fortify the peer review mechanisms of these Conventions. Furthermore, Member States were urged to make regular use of IAEA safety peer reviews and advisory services. The subsequent rise in engagement, coupled with the sharing of outcomes, insights, and best practices, constitutes positive progress that ought to be maintained. Additionally, the IAEA Secretariat was entrusted with conducting assessments and offering prognoses during nuclear or radiological emergencies.

Effective nuclear law enforcement is a key aspect of nuclear legislation, along with the high safety and security standards discussed earlier. The development of the IAEA's assurance system began at a time of great concern that nuclear weapons would become a major element in the arsenals of many countries around the world. That this has not happened is a testament to the importance of the third core component of nuclear law, which underlies the Agency's mission and history: the task of ensuring the safety of nuclear material and related technology for peaceful purposes. As a result, the establishment and administration of safeguards became a core function of the IAEA in accordance with its Statute [3]. During the first 20 years of implementation of safeguards measures in states with Comprehensive Safeguards Agreements, the emphasis was mainly on verification of nuclear material and facilities that were declared by the state (that is, on verification of the accuracy of the declarations of states and providing guarantees that there is no deviation of the declared nuclear material from peaceful nuclear activities in the state) [4]. The implementation of so-called «traditional safeguards» during this period in relation to nuclear material and facilities declared by states under their Comprehensive Safeguards Agreements was based on safeguards approaches and criteria that determine the scope, frequency and depth of verification measures required to achieve the IAEA's inspection goals [5].

Emerging technologies mark a crucial area in nuclear law, particularly with the advent of advanced reactors such as SMRs and transportable nuclear power plants (TNPPs). Globally, many Member States are actively researching, developing, or deploying advanced fission reactors. These reactors encompass both evolutionary and innovative technologies, some of which may use alternative coolants and moderators like gas, molten salt, or liquid metals instead of water. These next-generation reactors are typically designed to produce up to 300 MW of electric power and feature components and systems that can be prefabricated in a shop and transported as modules to their installation sites as needed. Currently, there are over 70 SMR designs at various stages of development, with a few nearing deployment.

The 1986 adoption of the Convention on Early Notification of a Nuclear Accident (Early Notification Convention) and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency (Emergency Assistance Convention) established a mandate for international cooperation mechanisms to enhance communication and technical support, mitigating the impacts of nuclear accidents and radiological emergencies. The Convention on Nuclear Safety (CNS), adopted in 1994, further enforces national accountability for nuclear safety and encourages international cooperation, embodying a global agreement on high safety standards for protecting human health and the environment from ionizing radiation. The Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (Joint Convention), adopted in 1997, outlines the duties and responsibilities of nations in managing spent fuel and radioactive waste safely throughout their lifecycle.

To assist States in meeting international obligations under the CNS and the Joint Convention, the IAEA has issued a comprehensive series of nuclear safety standards, including Safety Fundamentals, General Safety Requirements, General Safety Guides, Specific Safety Requirements, and Specific Safety Guides. These standards provide a safety framework for the entire nuclear energy utilization process, aiding countries in establishing robust nuclear safety regulatory systems and technical measures to maintain high global safety levels. Developed in 1979 by the IAEA, the Convention on the Physical Protection of Nuclear Material (CPPNM) aimed to secure nuclear materials during international transport. The 9/11 attacks expedited the CPPNM's revision, resulting in a 2005 amendment that broadened its scope to include the protection of nuclear facilities and materials in domestic contexts, incorporating measures against sabotage. The IAEA also introduced the Code of Conduct on the Safety and Security of Radioactive Sources and the Nuclear Security Series to guide Member States and the global community. Furthermore, the International Convention on the Suppression of Acts of Nuclear Terrorism, facilitated by the United Nations, was adopted in April 2005 and enforced in July 2007.

The IAEA's «Programme 93+2», launched in 1993, sought to bolster the safeguards system's effectiveness and efficiency. The 1997 Model Additional Protocol further empowered the IAEA to identify undeclared nuclear materials and activities.[14] In 1992, the Nuclear Suppliers Group required a comprehensive safeguards agreement between non-nuclear-weapon States and the IAEA for nuclear transfers, established guidelines for nuclear dual-use equipment, materials, and technology transfers, and enhanced nuclear export controls. The «Law of Nuclear Safety» was implemented in 2018. The «Law of Atomic Energy» is currently under review by the Standing Committee of the National People's Congress. Several regulations and guidelines for nuclear safety, security, and import/export management have been issued, forming a robust nuclear legal framework. By June 2019, China had introduced nine administrative regulations, nearly 40 departmental regulations, over 100 safety guidelines, more

than 1000 national and industrial standards, and over 200 local regulations in 31 provinces, autonomous regions, and municipalities, playing a crucial role in the secure and efficient growth of China's nuclear sector [15].

Conclusion. The nuclear industry has continued to evolve since the development of nuclear liability principles in the early 1960s. The INLEX Recommendations allow the international liability regime to adapt to this evolution while remaining true to these principles.

This chapter aims to outline the complete process of establishing a nuclear security regime, consider the planning of a nuclear program and, as a result, develop a nuclear security regime.

Nuclear security should be considered as part of intensive national cooperation, especially in areas with strong interfaces, such as intelligence, verification, cooperation with state security forces and computer security. Therefore, it is important to create a state body on nuclear safety. The competent authority, whose position is adapted to the national security environment, should, as necessary, participate in this coordination to ensure the coherence of the national and international framework of nuclear security.

The threat faced by the operator is a key aspect of nuclear security, as malicious activities are carried out by people who can adapt to the circumstances. At the same time, the operator must take into account natural or accidental risks. In the design and authorization processes, it is important that the operator and the competent authority analyze the situation from the perspective of a potential attacker. This paradigm shift is not intuitive, as the logic of risk assessment is usually done from the perspective of the «defender».

Measures to ensure the safety of nuclear activities were originally created to fulfill the functions of nuclear safety. It is therefore important to ensure that these measures are effective and robust against malicious actors. It also helps detect certain operating modes or malicious scenarios that are difficult to predict otherwise.

It is always useful to remember that, despite the sovereign responsibility of states, nuclear security is part of global security. Terrorist threats are often international in nature and require effective international cooperation to overcome them. The consequences of malicious acts regarding nuclear activities are such that every country is concerned with how other countries approach nuclear security issues.

Nuclear security, as a component of national security, has specific aspects, such as sovereignty and information protection, that make it different from other parts of the nuclear sector. It is associated with numerous norms of international law, which solve specific problems through their own logic and goals. A similar situation also applies to nuclear safety and safeguards. An overemphasis on a nuclear approach may lead to the exclusion of subject matter experts in favor of universal profiles, which will not ensure coherence with other relevant areas, for example with security in a broad sense at the national and international levels.

The IAEA plays an important coordinating role in this logic, creating the necessary bridges to identify and address the interfaces between the three components of the nuclear sector, while maintaining their uniqueness for the proper integration of these considerations. International cooperation is essential to share best practices among nuclear security professionals and develop recommendations recognized by the international community.

In this aspect, the IAEA plays an important role by organizing a series of activities on nuclear safety, conducting numerous training courses, seminars and conferences, and providing various services to States. However, it is worth considering that in many cases regional or bilateral relations can be more effective. For example, there is the European Nuclear Safety Regulators Association (ENSRA), which brings together the nuclear safety authorities of several European countries, allowing for discussion of specific issues and exchange of information more freely than within the broader framework of the IAEA. In addition, states often enter into bilateral cooperation agreements with other states, including confidentiality rules.

Список використаних джерел

1. Міжнародне агентство з атомної енергії (МАГАТЕ), Система гарантій агентства, INFCIRC/66/Rev. URL: <https://www.iaea.org/sites/default/files/publications/documents/infcircs/1965/infcirc66r2.pdf> (дата звернення: 20.04.2024)
2. Міжнародне агентство з атомної енергії (МАГАТЕ), Структура та зміст угод між Агентством і державами, які вимагаються у зв'язку з Договором про нерозповсюдження ядерної зброї, INFCIRC/153. URL: <https://www.iaea.org/sites/default/files/publications/documents/infcircs/1972/infcirc153.pdf> (дата звернення: 20.04.2024)
3. Статут Міжнародного агентства з атомної енергії МАГАТЕ, Відень. 1989. URL: <https://www.iaea.org/sites/default/files/statute.pdf> (дата звернення: 20.04.2024)

4. Міжнародне агентство з атомної енергії МАГАТЕ, Типовий додатковий протокол до угоди(-й), 1997. URL: https://inis.iaea.org/collection/NCLCollectionStore/_Public/29/011/29011296.pdf?r=1&r=1 (дата звернення: 20.04.2024)
5. Між державою(ами) та Міжнародним агентством з атомної енергії щодо застосування гарантій, INFCIRC/540. URL: <https://www.iaea.org/sites/default/files/infirc540.pdf> (дата звернення: 20.04.2024)
6. Міжнародне агентство з атомної енергії МАГАТЕ, Довідник з ядерного права. МАГАТЕ, Відень, 2003. URL: <https://gnssn-qa.iaea.org/CSN/SoDR/2017%20School%20of%20Drafting%20Regulations%20%20Caribbean/IAEA%20Safety%20Standards/Nuc%20Law%20Handbook.pdf> (дата звернення: 20.04.2024)
7. Міжнародне агентство з атомної енергії МАГАТЕ, Кодекс поведінки щодо безпеки та охорони радіоактивних джерел: Керівні принципи щодо імпорту та експорту радіоактивних джерел. МАГАТЕ, Відень, 2005. URL: https://www-pub.iaea.org/mtcd/publications/pdf/imp-exp_web.pdf (дата звернення: 20.04.2024)
8. Міжнародне агентство з атомної енергії МАГАТЕ, Довідник з ядерного права: імплементаційне законодавство. МАГАТЕ, Відень, 2010. URL: https://www-pub.iaea.org/mtcd/publications/pdf/pub1456_web.pdf (дата звернення: 20.04.2024)
9. Міжнародне агентство з атомної енергії МАГАТЕ, Повідомлення, отримане від Постійного представництва Республіки Казахстан при Міжнародному агентстві з атомної енергії від імені урядів-учасниць Групи ядерних постачальників, INFCIRC/539/Rev.7, 2019. URL: <https://www.iaea.org/sites/default/files/publications/documents/infircs/1997/infirc539r7.pdf> (дата звернення: 20.04.2024)
10. Міжнародне агентство з атомної енергії (МАГАТЕ), Річний звіт МАГАТЕ за 2020 рік. URL: <https://www.iaea.org/sites/default/files/publications/reports/2020/gc65-5-annexinfo.pdf> (дата звернення: 20.04.2024)
11. Державна рада Китайської Народної Республіки, Положення про управління та контроль ядерних матеріалів. URL: http://vienna.china-mission.gov.cn/eng/cjyjs/04/200406/t20040603_8880894.htm (дата звернення: 20.04.2024)
12. Постанова Державної Ради Китайської Народної Республіки «Про аварійне управління при аваріях на атомних електростанціях». URL: <https://www.caec.gov.cn/english/n6759377/c6793126/content.html> (дата звернення: 20.04.2024)
13. Державна рада Китайської Народної Республіки, Правила ядерного експортного контролю, 1997. URL: <http://www.lawinfochina.com/display.aspx?lib=law&id=6291&CGid=> (дата звернення: 20.04.2024)
14. Державна рада Китайської Народної Республіки, Положення про ядерний експортний контроль, 1998. URL: <https://faolex.fao.org/docs/pdf/chn149841.pdf> (дата звернення: 20.04.2024)
15. Декрет Державної Ради Китайської Народної Республіки «Про експортний контроль ядерної продукції подвійного призначення та пов'язаних з нею технологій». URL: https://english.mee.gov.cn/Resources/laws/regulations/Natural_Conservation_Biosafety/201708/t20170803_419100.shtml (дата звернення: 20.04.2024)
16. Постанова Державної Ради Китайської Народної Республіки «Про безпеку та захист радіоізотопів і радіаційних приладів». URL: http://www.scio.gov.cn/zfbps/zfbps_2279/202207/t20220704_130625.html (дата звернення: 20.04.2024)
17. Державна рада Китайської Народної Республіки, Положення про нагляд та управління перевезенням радіоактивних матеріалів. <https://nnsa.mee.gov.cn/english/resources/laws/201805/P020180523610883384175.pdf> (дата звернення: 20.04.2024)
18. Tingke Z., Minrong L., Qilong P. Звіт про розвиток ядерної енергетики Китаю. Social Sciences Literature Press, Пекін, 2021. https://link.springer.com/chapter/10.1007/978-94-6265-495-2_2 (дата звернення: 20.04.2024)

References

1. Mizhnarodne ahentstvo z atomnoi enerhii (MAHATE), Systema harantii ahentstva, INFCIRC/66/Rev [International Atomic Energy Agency (IAEA), *Agency Safeguards System*, INFCIRC/66/Rev.]. Retrieved from <https://www.iaea.org/sites/default/files/publications/documents/infircs/1965/infirc66r2.pdf> [in Ukrainian]
2. Mizhnarodne ahentstvo z atomnoi enerhii (MAHATE), Struktura ta zmist uhod mizh ahentstvom i derzhavamy, yakі vymahaiutsia u zviazku z Dohovorom pro nerozprovsiudzhennia yadernoi zbroi, INFCIRC/153 [International Atomic Energy Agency (IAEA), *Structure and Content of Agreements Between the Agency and States Required in Connection with the Treaty on the Non-Proliferation of Nuclear Weapons*, INFCIRC/153].

- Retrieved from <https://www.iaea.org/sites/default/files/publications/documents/infcircs/1972/infcirc153.pdf> [in Ukrainian]
3. *Statut Mizhnarodnoho ahentstva z atomnoi enerhii MAHATE, Viden. 1989 [Statute of the International Atomic Energy Agency IAEA, Vienna] (1989)*. Retrieved from <https://www.iaea.org/sites/default/files/statute.pdf> [in Ukrainian]
 4. *Mizhnarodne ahentstvo z atomnoi enerhii MAHATE, Typovyi dodatkovyi protokol do uhody(-y) [International Atomic Energy Agency IAEA, Model Protocol Additional to Agreement(s)] (1997)*. Retrieved from https://inis.iaea.org/collection/NCLCollectionStore/_Public/29/011/29011296.pdf?r=1&r=1 [in Ukrainian]
 5. *Mizh derzhavoiu(amy) ta Mizhnarodnym ahentstvom z atomnoi enerhii shchodo zastosuvannia harantii, INFCIRC/540 [Between the State(s) and the International Atomic Energy Agency on the Application of Safeguards, INFCIRC/540]*. Retrieved from <https://www.iaea.org/sites/default/files/infcirc540.pdf> [in Ukrainian]
 6. *Mizhnarodne ahentstvo z atomnoi enerhii MAHATE, Dovidnyk z yadernoho prava. MAHATE, Viden [International Atomic Energy Agency IAEA, Nuclear Law Handbook. IAEA, Vienna] (2003)*. Retrieved from <https://gnssn-qa.iaea.org/CSN/SoDR/2017%20School%20of%20Drafting%20Regulations%20%20Caribbean/IAEA%20Safety%20Standards/Nuc%20Law%20Handbook.pdf> [in Ukrainian]
 7. *Mizhnarodne ahentstvo z atomnoi enerhii MAHATE, Kodeks povedinky shchodo bezpeky ta okhorony radioaktyvnykh dzherel: Kerivni pryntsyipy shchodo importu ta eksportu radioaktyvnykh dzherel. MAHATE, Viden [International Atomic Energy Agency IAEA, Code of Conduct for the Safety and Security of Radioactive Sources: Guidelines for the Import and Export of Radioactive Sources. IAEA, Vienna] (2005)*. Retrieved from https://www-pub.iaea.org/mtcd/publications/pdf/imp-exp_web.pdf [in Ukrainian]
 8. *Mizhnarodne ahentstvo z atomnoi enerhii MAHATE, Dovidnyk z yadernoho prava: implementatsiine zakonodavstvo. MAHATE, Viden [International Atomic Energy Agency IAEA, Handbook of Nuclear Law: Implementing Legislation. IAEA, Vienna] (2010)*. Retrieved from https://www-pub.iaea.org/mtcd/publications/pdf/pub1456_web.pdf [in Ukrainian]
 9. *Mizhnarodne ahentstvo z atomnoi enerhii MAHATE, Povidomlennia, otrymane vid Postiinoho predstavnytstva Respubliky Kazakhstan pry Mizhnarodnomu ahentstvi z atomnoi enerhii vid imeni uriadiv-uchasnyts Hrupy yadernykh postachalnykiv, INFCIRC/539/Rev.7 [International Atomic Energy Agency IAEA, Communication received from the Permanent Mission of the Republic of Kazakhstan to the International Atomic Energy Agency on behalf of the participating Governments of the Nuclear Suppliers Group, INFCIRC/539/Rev.7] (2019)*. Retrieved from <https://www.iaea.org/sites/default/files/publications/documents/infcircs/1997/infcirc539r7.pdf> [in Ukrainian]
 10. *Mizhnarodne ahentstvo z atomnoi enerhii (MAHATE), Richnyi zvit MAHATE za 2020 rik [International Atomic Energy Agency (IAEA), IAEA Annual Report 2020] (2020)*. Retrieved from <https://www.iaea.org/sites/default/files/publications/reports/2020/gc65-5-annexinfo.pdf> [in Ukrainian]
 11. *Derzhavna rada Kytaiskoi Narodnoi Respubliky, Polozhennia pro upravlinnia ta kontrol yadernykh materialiv [State Council of the People's Republic of China, Regulations on the Management and Control of Nuclear Materials]*. Retrieved from http://vienna.china-mission.gov.cn/eng/cjyjs/04/200406/t20040603_888_0894.htm [in Ukrainian]
 12. *Postanova Derzhavnoi Rady Kytaiskoi Narodnoi Respubliky «Pro avariine upravlinnia pry avariiakh na atomnykh elektrostantsiakh» [Resolution of the State Council of the People's Republic of China, On Emergency Management of Accidents at Nuclear Power Plants]*. Retrieved from <https://www.caea.gov.cn/english/n6759377/c6793126/content.html> [in Ukrainian]
 13. *Derzhavna rada Kytaiskoi Narodnoi Respubliky, Pravyla yadernoho eksportnoho kontroliu [State Council of the People's Republic of China, Nuclear Export Control Regulations] (1997)*. Retrieved from <http://www.lawinfochina.com/display.aspx?lib=law&id=6291&CGid=> [in Ukrainian]
 14. *Derzhavna rada Kytaiskoi Narodnoi Respubliky, Polozhennia pro yadernyi eksportnyi kontrol [State Council of the People's Republic of China, Regulations on Nuclear Export Control] (1998)*. Retrieved from <https://faolex.fao.org/docs/pdf/chn149841.pdf> [in Ukrainian]
 15. *Dekret Derzhavnoi Rady Kytaiskoi Narodnoi Respubliky «Pro eksportnyi kontrol yadernoi produktsii podviinoho pryznachennia ta poviazanykh z neiu tekhnologii»*. Retrieved from https://english.mee.gov.cn/Resources/laws/regulations/Natural_Conservation_Biosafety/201708/t20170803_419100.shtml [in Ukrainian]
 16. *Postanova Derzhavnoi Rady Kytaiskoi Narodnoi Respubliky «Pro bezpeku ta zakhyst radioizotopiv i radiatsiinykh pryladiv» [Resolution of the State Council of the People's Republic of China, On the Safety and*

- Protection of Radioisotopes and Radiation Devices*]. Retrieved from http://www.scio.gov.cn/zfbps/zfbps_2279/202207/t20220704_130625.html [in Ukrainian]
17. *Derzhavna rada Kytayskoi Narodnoi Respubliki, Polozhennia pro nahliad ta upravlinnia perevezenniam radioaktyvnykh materialy [State Council of the People's Republic of China, Regulations on the Supervision and Administration of Transport of Radioactive Materials]*. Retrieved from <https://nnsa.mee.gov.cn/english/resources/laws/201805/P020180523610883384175.pdf> [in Ukrainian]
18. Tingke, Z., Minrong, L. & Qilong, P. (2021). *China's Nuclear Power Development Report*. Beijing: Social Sciences Literature Press. Retrieved from https://link.springer.com/chapter/10.1007/978-94-6265-495-2_2 [in Ukrainian]

Стаття надійшла до редакції 29.05.2024