



Black Sea
Women in Nuclear
Network



Uniting women,
Leading change,
Making waves



Alona Samsonenko

(She/Her)

UKRAINE

Dr. Alona Samsonenko is a Research Assistant The George Kuzmych Training Center at the Ukrainian National Academy of Sciences' Institute for Nuclear Research.

She is a lawyer specialized in physical protection, accounting and control of nuclear materials, and holds a PhD in nuclear energy in 2025 from National Technical University of Ukraine "Kyiv Polytechnic Institute".

She is a member of the the Black Sea Women in Nuclear Network.

She co-authored the training course "Physical Protection, Accounting and Control of Nuclear Material," developed for the George Kuzmych Training Center at the Ukrainian National Academy of Sciences' Institute for Nuclear Research.

She can provide mentorship in Ukrainian and English.

MENTORSHIP TOPICS regarding NUCLEAR SECURITY

Topic 1. The legislative system of Ukraine

- a. *Definition of terms: legislation of Ukraine, normative legal act, rule of law.*
- b. *Vertical hierarchical structure of domestic legislation on physical protection.*
- c. *The Constitution of Ukraine: clarification.*
- d. *International treaties of Ukraine: clarification.*
- e. *Laws of Ukraine: clarification.*
- f. *Legal acts of the President of Ukraine: clarification.*
- g. *Regulatory acts of the Cabinet of Ministers of Ukraine: clarification.*
- h. *Normative legal acts of ministries and other central bodies of executive power: clarification.*
- i. *IAEA recommendations on physical protection: clarification.*
- j. *Organizational and administrative documents of licensees: clarification.*

Duration: 2 hours consisting of presentations, discussions and practice sessions

Topic 2. Ukraine's international obligations in the field of physical protection

International conventions and agreements related to physical protection and ratified by Ukraine, namely:

- a. *Law of Ukraine "On International Agreements of Ukraine"*
- b. *Agreement between Ukraine and the International Atomic Energy Agency on the application of guarantees*
- c. *Convention on Physical Protection of Nuclear Material*
- d. *Amendments to the Convention on the Physical Protection of Nuclear Material*
- e. *International Convention on Combating Acts of Nuclear Terrorism*

Duration: 2 hours consisting of presentations and discussions

Topic 3. The role of the IAEA in the structure of international physical security

- a. *Summits on physical nuclear security.*
- b. *Series of publications of the IAEA on physical nuclear security. Physical Nuclear Security Recommendations for the Physical Protection of Nuclear Material and Nuclear Installations INFCIRC/225/Rev.5.*
- c. *The state regime of physical nuclear security. State regime of physical protection.*

Duration: 3 hours consisting of presentations, discussions and practice sessions

Topic 4. National regime of physical protection of nuclear installations, nuclear materials, radioactive waste, other sources of ionizing radiation

- a. *Tasks of nuclear legislation. Scope of nuclear legislation. State management and state regulation in the field of nuclear energy use and radiation safety.*
- b. *The need for physical protection; purposes of physical protection; principles of state policy on physical protection; primary requirements for physical protection; basic requirements of physical protection; powers of state bodies and responsibilities of licensees regarding physical protection.*
- c. *About the use of nuclear energy and radiation safety*
- d. *About permitting activities in the field of nuclear energy use*
- e. *On physical protection of nuclear installations, nuclear materials, radioactive waste, other sources of ionizing radiation*
- f. *About transportation of dangerous goods*
- g. *About the Security Service of Ukraine*
- h. *About the National Guard of Ukraine*
- i. *About the fight against terrorism*
- j. *About access to public information*
- k. *About state secrets.*
- l. *Acts of the Cabinet of Ministers of Ukraine*
- m. *Normative and legal acts of the State Nuclear Regulation*
- n. *Normative and legal acts of the central bodies of executive power, which carry out state administration, and of the National Academy of Sciences of Ukraine.*

Duration: 6 hours (2 or 3 sessions) consisting of presentations and discussions

Topic 5. Measures of operating organizations to meet the requirements of physical protection of nuclear installations and nuclear materials

- a. Establishing and implementing the procedure for financing the creation and ensuring the functioning of physical protection systems*
- b. Creating the conditions for protection of information with limited access*
- c. Fulfilling the requirements of a special inspection and admission to the performance of special works*
- d. Establishing responsibility for the implementation and maintenance of the physical protection regime*
- e. Creating and ensuring the functioning of quality management systems for physical protection of specific objects of the state physical protection system*
- f. Conducting professional retraining and advanced training in physical protection of specialists who are entrusted with the implementation of physical protection functions and the performance of other special works*
- g. Developing an object project threat and ensuring compliance of the object project threat with the project threat*
- h. Determining of the category and level of physical protection of nuclear installations and nuclear materials, and ensuring approval and of acts to determine the level of physical protection in accordance with legislation*
- i. Determining of the maximum possible radiation consequences of the implementation of object design threats (without taking into account the physical protection system)*
- j. Defining the physical protection system of a nuclear installation*
- k. Developing and approving technical tasks for the creation of a system of physical protection of a nuclear installation*
- l. Submitting projects for the creation, modernization and reconstruction of physical protection systems of a nuclear installation for the state examination of physical protection*
- m. Developing and implementing plans for providing physical protection*
- n. Creating a system of physical protection of a nuclear installation*
- o. Developing, approving, and implementing physical protection procedures*
- p. Ensuring the use of security units in the physical protection system of a nuclear installation*
- q. Ensuring the reflection of physical protection requirements in emergency preparedness and emergency response plans, as well as training and education of personnel of physical protection units and security units regarding actions in emergency situations*
- r. Developing and ensuring approval of object plans of interaction and implementing measures to ensure their effectiveness*
- s. Conducting a check of the effectiveness of object interaction plans in the event of sabotage and, if necessary, taking measures to improve them*
- t. Carrying out an assessment of the vulnerability of a nuclear installation*
- u. Introduction of the physical protection system of the nuclear installation into operation*
- v. Ensuring continuous operation of the physical protection system of the nuclear installation, conformity of the operational characteristics of the system with the requirements of the legislation*
- w. Ensuring the operational management of engineering and technical means, complexes of engineering and technical means of the physical protection system and their technical*

operation in accordance with the design and operational documentation in accordance with the procedure established by law

- x. *Developing and implementing programs for the technical re-equipment of engineering and technical means, complexes of engineering and technical means of the physical protection system*
- y. *Developing security culture*
- z. *Assessing the state of the physical protection system*

Duration: 10 hours (4 or 5 sessions) consisting of presentations, discussions and practice sessions

Topic 6. State supervision of compliance with legislation on physical protection and fulfillment of license conditions

Resolution of the CMU dated 13.12.2013 No. 824 "Procedure for state supervision of compliance with nuclear and radiation safety requirements"

Duration: 1 hour consisting of presentations and discussions

Topic 7. Departmental control over provision of physical protection of nuclear installations and nuclear materials

Order of the Ministry of Energy and Coal Industry of Ukraine, the Ministry of Emergency Situations of Ukraine, the National Academy of Sciences of Ukraine dated 10.17.2011 No. 621/1095/656, registered in the Ministry of Justice of Ukraine on November 7, 2011 under No. 1267/20005 "On Approval of the Procedure for Controlling the Provision of Physical Protection nuclear installations, nuclear materials, radioactive waste, other sources of ionizing radiation".

Duration: 1 hour consisting of presentations and discussions

Topic 8. Responsibility for violation of the legislation of Ukraine on physical protection

- a. *Article 7 of the Convention on Physical Protection of Nuclear Materials.*
- b. *Chapter XIV of the Law of Ukraine "On the Use of Nuclear Energy and Radiation Safety".*
- c. *Article 32 of the Law of Ukraine "On Physical Protection of Nuclear Installations, Nuclear Materials, Radioactive Waste, and Other Sources of Ionizing Radiation."*
- d. *Article 171 of the Law of Ukraine "On licensing activities in the field of nuclear energy use".*

Duration: 2 hours consisting of presentations and discussions