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Improvement of Radioactive Waste Physical Protection as a Step to Maintain Nuclear Security

The paper considers the procedure of ensuring physical protection of radioactive materials, in particular establishing levels of physical protection and its impact on nuclear security in Ukraine. There is a brief overview of the nature and types of radioactive waste in Ukraine, types of storage facilities, other radioactive waste management facilities, locations of radioactive waste in Ukraine, in particular the Chornobyl exclusion zone, causes of threats and risks. Efficient prevention of these threats requires the state system for physical protection of facilities and installations. Based on experience, paper authors, who review physical protection in construction and modernization of physical protection systems of radioactive waste management facilities, consider the state of physical protection of storage facilities and other installations, their modernization and unsolved problems. The paper also considers the physical protection issue in radioactive waste transport and provides conclusions on the improvement of the regulatory and legal framework of nuclear security in Ukraine.

Keywords: nuclear security, physical protection, radioactive waste, nuclear and radiation safety, physical protection system.