

Risk estimates migration of radionuclides after flooded Klivazh facility

In September 1979 industrial underground nuclear explosion rocked Ukraine, in the frame program #7 “Nuclear Explosions for the National Economy”. The nuclear experiment was conducted in the suburb of the Yenakiyev town, the “Yunyi Kommunar (Yunkom)” coal mine. After nuclear explosion formed a vitrified glass-ceramic melt chamber containing about 95% of the radioactivity of the explosion to assure that would be insoluble in water. In the context of the lack of official information on the state of the environment all available sources were analyzed. With the coal production shut down as not unpromising, the mine’s pumps continued to pump shaft waters out for more than a decade to prevent flooding of the “Klivazh” facility. The main goal of the presentation is provide objective information regarding uncontrolled leakage of contaminated water from flooded mines. A significant uncertainty associated with the present mining-geological state of the “Klivazh facility” dictates a need to validate assessments of the geological environment’s protective ability. Preliminary recommendations environmental monitoring to reducing risk associated with migration of radionuclides after flooded “Klivazh” facility have been primarily made as conservative assessments.

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