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Cancer Morbidity as Radiation Protection Efficiency Indicator in Uranium Mining Facilities

The paper reviews the efficiency of radiation protection in uranium mining industry. The officially provided data on individual doses for underground and surface mining professionals is analysed and cancer morbidity risk is assessed. The researchers defined the individual components of the total effective dose and separately assessed their contributions. The total of 114 cancer cases have been registered during the past 15 years. Accumulated equivalent doses for lungs are estimated from 20 to 430 mSv. The total working time in 56% of individual cancer cases diagnosed made over 20 years.

The actual lung cancer mortality rate for miners is established 3 cases per 1000 individuals, which permits to question the authenticity of the dosimetric data and the efficiency of radiological protection applied.

Keywords: uranium mines, miners, exposure dose, lung cancer, radiological protection (radiation protection), acceptable risk.