

UDC 351.861

DANGEROUS FACTORS OF THE WORK OF SAPERS OF THE STATE EMERGENCY SERVICE IN A RADIATION-CONTAMINATED AREA*Stepanchuk Serhii, Strelets Victor, Ph.D, prof.,**National University of Civil Protection of Ukraine, Kharkiv, Ukraine*

The work of a sapper has always been one of the most risky branches of the State Emergency Service of Ukraine. Sappers always go first, it is a dangerous job that can lead to injury or death [1]. They perform dangerous tasks related to the demining and disposal of explosives, removing mines, and other deadly threats. However, when miners go to work in a radiation-contaminated area, their risk increases significantly. In this work, the dangerous factors of sappers' work in such conditions and the measures that must be taken for their protection will be considered.

Radiation pollution is the presence of radioactive materials in the environment, which can occur as a result of nuclear accidents, radioactive sources or military conflicts. The radiation emitted by these materials can lead to serious consequences for human health, including radiation sickness, cancer, and even death [2].

Sappers working in a radiation-contaminated area face the following dangerous factors:

1. Radiation exposure [3]: Sappers are exposed to high levels of ionizing radiation that can damage their cells and genetic material. This can cause severe illness and radiation sickness.
2. Risk of Contamination [4]: Miners can get radioactive particles on their clothing and equipment, leading to contamination and further radiation exposure even after the task is completed.
3. Physical and psychological stress: Working in protective suits and equipment at high speeds and in difficult environmental conditions can lead to physical and psychological fatigue.
4. Need for precision and attention: Sappers must maintain the highest level of precision and attention in the execution of their tasks, as any mistake can have dangerous consequences.

To ensure the safety of sappers working in a radiation-contaminated area, it is necessary to take a set of measures:

1. Protective clothing and equipment: Sappers must be equipped with special protective suits, masks, gloves and boots that minimize contact with radioactive materials (fig.1).
2. Dosimeters and radiometers: The use of dosimeters and radiometers allows miners to measure the level of radiation exposure and detect dangerous areas in time.





Figure 1. – Protective clothing of sappers for work in radiation-contaminated area

3. Specialized training: Sappers must have a high level of professional training to correctly perform tasks in conditions of radiation contamination.

4. Medical service: The presence of medical workers with means of diagnosis and treatment of radiation injuries helps to provide help to sappers in time.

5. Continuous monitoring: Regular monitoring of miners' health and the degree of their radiation exposure is an important component of safety.

The work of sappers in a radiation-contaminated area includes numerous dangerous factors that can affect their health and safety. However, with the right protective measures and proper training, the risk can be minimized. It is important to ensure that sappers are provided with the necessary resources and support to enable them to carry out their important work safely and effectively, protecting the lives and safety of citizens.

References:

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