

ANALYSIS OF METHODS OF MAN-MADE HAZARD ASSESSMENT ON THE TERRITORY OF UKRAINE

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Abstract. The methods of man-caused hazard assessment on the territory of existing administrative-territorial units are analyzed in the work. The main criteria for assessing the occurrence of emergencies are identified. The generalized scheme of monitoring the possibility of dangerous situations on the territory of the existing administrative-territorial units is presented, which allows to improve the existing system of civil protection of the population.

Keywords: man-made hazard, emergency, risk, potentially hazardous object.

Анотація. У роботі проаналізовано методи оцінки техногенної небезпеки на території наявних адміністративно-територіальних одиниць. Визначено основні критерії оцінки настання надзвичайних ситуацій. Представлено узагальнену схему моніторингу можливості виникнення небезпечних ситуацій на території існуючих адміністративно-територіальних одиниць, що дозволяє покращити існуючу систему цивільного захисту населення.

Ключові слова: техногенна небезпека, надзвичайна ситуація, ризик, потенційно небезпечний об'єкт.

Introduction. Today, one of the most important issues to consider is the man-made situation in Ukraine, as it remains quite tense. Environmental safety monitoring shows that in recent years in different regions of Ukraine there is a gradual increase in potential risks to the population, the avoidance of which is the basis of civil protection. Therefore, practical research and further forecasting of emergencies is becoming increasingly important.

Analysis of the state of the issue. At the same time, there are already a number of developments in this direction that allow for a comprehensive assessment of the existing man-made hazards in Ukraine. For example, in [1] the authors presented a method of assessing the level of industrial danger of administrative-territorial units of Ukraine based on the method of vector-statistical analysis, which took into account the area of existing territories and their population. Thus, the developed methodology allows, by conducting a detailed analysis, to prevent the occurrence of a large-scale emergency, or, with prior training, to quickly organize emergency rescue work.

Man-made safety means no risk of accidents, fires, explosions and other catastrophes at potentially dangerous sites. Industrial safety itself characterizes the level of protection of the population and territories from the occurrence of these emergencies.

The purpose of this work is to analyze the main existing methods of assessing the presence of danger in Ukraine and their generalization, which allows in the future

to improve the current system of civil protection of Ukraine.

Methods, materials and research results. The main concept on which the technogenic security of Ukraine is based is the state of emergency (emergency). This term characterizes the violation of normal living conditions of people in a certain area, which is usually caused by an accident, catastrophe, fire at work, natural disasters that can cause or have caused human losses and damages. For example, an emergency may be the result of an emergency and man-made or natural conditions. In practice, its control and classification is carried out in accordance with the State Classification of Emergencies, which was approved in 2001 [2]. This document allows you to clearly assess the events and predict the time when they may occur in order to respond quickly at all levels of government and immediately organize, if necessary, emergency rescue work.

Most methods of assessing man-made hazards in Ukraine consist of a preliminary analysis of how many times it has occurred, its nature (explosion, fire or radiation hazard), in which territory it occurred and the reasons for its occurrence. For example, the authors of [3] give an analysis that for the period from 1997 to 2018 there were about 3560 man-made emergencies. Among them, the greatest danger to the population and territory of Ukraine were radiation, chemical, explosive and fire hazards. The cause of which was the sudden destruction of buildings, accidents in electrical systems and emissions of harmful substances into the atmosphere. In [4], the authors proposed a basic approach to the analysis of risks of accidents at potentially dangerous objects, which was based on assessing the state of man-made safety, quantitative assessment of risks of accidents and incidents and control and reduce the possibility of their occurrence. This study allows us to predict and establish preliminary mechanisms for managing man-made hazards, which in turn improves existing methods of civil security. At the same time, the authors of [5] presented an energy approach to assessing the danger to the population of Ukraine in the constant operation of potentially endangered objects, based on the analysis of energy parameters of man-made danger, their negative impact on the population. territory of Ukraine, the number of emergencies and the presence of dangerous objects in the territory of different administrative-territorial units. This provided an opportunity to create an effective system for monitoring and counteracting the emergence of man-made and environmental hazards in the country.

Methods of assessing man-made hazards in Ukraine may differ significantly and depend on the chosen criterion for assessing the existing threatening situations on the territory of administrative-territorial units, and the number of existing emergencies and their causes, as well as the presence of potentially dangerous objects and the end result to be achieved in the obtained analysis. Improving the existing monitoring of accidents and forecasting their further development is quite promising today.

Based on the above, the main criteria for assessing the possibility of an emergency are formed:

- assessment of existing emergencies and analysis of the causes of their occurrence;

- control and inspection of potentially dangerous objects on the territory of Ukraine;
- control of the number of people who may suffer as a result of an emergency;
- quantitative assessment of risks of potential danger;
- assessment of the area of areas that may be affected by the accident;
- creation of preliminary subgroups of rescue operations near potentially dangerous objects.

Conclusion. Thus, this article analyzes the basic principles, methods and tools used to assess man-made hazards in Ukraine. The main criteria for assessing the occurrence of emergencies are identified and a generalized sequence of monitoring the possibility of dangerous situations on the territory of existing administrative-territorial units is proposed, which allows to improve the existing system of civil protection.

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