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FORENSIC EXAMINATIONS DURING THE INVESTIGATION OF CRIMINAL OFFENSES IN THE FIELD OF LAND USE, SUBSOIL PROTECTION, AND ATMOSPHERIC AIR

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Annotation. The study is devoted to typical forensic examinations during the investigation of criminal offenses in the field of land use, subsoil protection, atmospheric air. Taking into account the provisions of the current Criminal Procedure Code of Ukraine, it is possible to distinguish three procedural forms of the use of special knowledge that can be used in the investigation of criminal offenses against the environment: independent use of special knowledge by the investigator; participation in criminal proceedings of a specialist; examination. It is noted that forensic examination is the most effective means of performing investigative tasks in proceedings on criminal offenses in the field of land use, subsoil protection, atmospheric air, provided strict compliance with the requirements of criminal procedural legislation, regarding the appointment and conduct of this investigative (search) action. It is emphasized that expertise in the mentioned proceedings should be appointed only in the case when there is a real need for it, when without an expert's answer to certain questions it is impossible to establish the circumstances of a criminal offense. The analysis of the researchers' theoretical work and the study of investigative and judicial practice materials made it possible to identify the following main types of expertise that are carried out during investigations in the field of land use, subsoil protection, atmospheric air: ecological, forensic chemical, forensic expertise on land management, soil science, construction and technical technical, technological, toxicological, construction-technical, agro-technical, forestry, forensic-medical, medical-sanitary, forensic-veterinary. It was also concluded that during the investigation of the specified illegal acts, other types of forensic examinations may be appointed, including, in particular, engineering and technical, biological, dactyloscopic, handwriting, technical and forensic examination of documents, evaluation and land, forensic and material science examination of oil products, lubricants, fuel and lubricant materials, examination of computer equipment and software products, etc. Arguments

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are given that depending on the needs of the investigation, the specified types of forensic examinations can be assigned both at the initial and at the next stage of the investigation.

Key words: pretrial investigation, criminal offense, environment, special knowledge, expert opinion, forensic examination.

Formulation of the problem. Environmental protection is one of the most relevant functions of modern Ukraine. It is implemented by regulating relations in the field of protection, use and reproduction of natural resources, ensuring environmental safety, preventing and eliminating the negative impact of economic and other human activities on the environment. For this, the state implements environmental policy and establishes legal, in particular, criminal liability for environmental violations [1, p. 262-263]. Among the criminal offenses that harm the environment, destabilizing the ecological situation, a significant specific weight is criminal offenses in the field of land use, subsoil protection, atmospheric air (Articles 239, 239¹, 239², 240, 240¹, 241 and 254 of the Criminal Code Code of Ukraine) [2].

Against the background of the aggravation of the geopolitical and environmental situation in Ukraine, there is a rapid increase in crime rates in the specified area [3, p. 322]. Under such conditions, the urgent problem is the creation of an effective mechanism for bringing the guilty to justice for the commission of relevant criminal offenses. When investigating criminal offenses of this type, the use of special knowledge is almost the most important.

The state of development of this problem. The methodology for investigating criminal offenses in the field of land use, subsoil protection, and atmospheric air in Ukraine is insufficiently developed. The problems of using special knowledge during the investigation of the specified illegal acts against the environment were considered in a few publications by I. Hora, V. Karagodin, S. Knyzhenko, V. Lavryshchev, O. Narozhnaya, O. Rynkova, M. Rudenko and others, which contributed to a deep researching the methodology of investigating criminal offenses against the environment, improving their forensic characteristics, the role of special knowledge in their investigation.

However, certain applied aspects of the use of special knowledge in the investigation of criminal offenses in the field of land use, subsoil protection, and atmospheric air remain insufficiently researched, although they contain effective forensic recommendations that will contribute to the effective investigation of these illegal acts. In this regard, we suggest considering the modern possibilities of forensic examinations in the investigation of criminal offenses of this category.

The purpose of the article is a theoretical analysis of problematic issues of the use of special knowledge during the investigation of criminal offenses in the field of land use, subsoil protection, atmospheric air, in particular, conducting certain types of forensic examinations.

Presenting main material. During the investigation of criminal offenses in the field of land use, subsoil protection, atmospheric air, the investigator often needs to appoint a set of forensic examinations.

Forensic environmental examination is one of the most important procedural forms of application of special knowledge in criminal proceedings initiated on the facts of causing damage to the environment. This is a procedural action, the essence of which is a special investigation aimed at establishing the circumstances and facts related to the violation of environmental legislation about an environmental event that led to the death of people, harm to their health, large material losses, as well as other serious consequences, and which was carried out in accordance with the procedural order provided by law by persons knowledgeable in the field of ecology and certain applied sciences on behalf of the body conducting the investigation or the court to establish factual data, which in the form of a forensic expert's opinion can become evidence for establishing the truth in criminal proceedings [4, p. 71].

This examination is intended not only for establishing the limits of anthropogenic influence (territory pollution, depletion of surface or underground reservoirs, damage to animal and plant life), but also its specific circumstances, consequences, etc. [4, p. 70-71; 5, p. 7]. In the studied category of criminal proceedings, the need for environmental expertise arises when it is necessary: to establish possible environmental risks when the enterprise carries out its activities; to analyze the company's compliance with current legislation on environmental protection and established standards for atmospheric air, surface and underground waters, soils; to establish the degree of influence of the enterprise on atmospheric air, surface and ground water, soils; to detect traces of pollutants in samples of underground and surface waters, soils, and atmospheric air that have a negative impact on the ecological state of the environment; to analyze the conditions that led to the negative anthropogenic impact of the enterprise on the environment [6, p. 38].

A feature of the features of objects of forensic environmental examination is that such objects are usually a specific association in a limited volume of a large number of heterogeneous components that interact with each other and with the environment [7, p. 14-15]. For example, in the investigation of illegal mineral extraction, the objects of the forensic environmental examination are the extracted raw materials (stone, minerals, ore, water, etc.), their quantity and quality, the means of committing the crime (quarry machines, pumps, etc.), in general, the situation at the scene of the incident, some anthropological traces of influence on the scene [8, p. 130].

The specified examination is complex in nature, conducted by ecologists, chemists, physicists, biologists, agricultural technicians, forensic doctors and other specialists. In its process, issues related to the consequences of pollution of environmental objects are resolved, with the identification of the mechanism of pollution, the establishment of violations of the rules of environmental protection, the study of the possibilities of preventing negative anthropogenic impact on the environment, etc. As rightly noted by I.V. Hora, taking into account the complex nature of the said examination, the specialist can provide assistance to the parties of the criminal proceedings in the correct formulation of the questions to be put before the expert [9, p. 212].

With the help of a forensic chemical examination, it is possible to get answers to the question of whether certain air samples contain pollutants (components that are not inherent in their normal composition), and if so, what exactly and in what concentrations, whether they exceed the maximum permissible; whether this substance belongs to the category of toxic chemicals that actively affect the human body and the surrounding natural environment; whether this chemical substance belongs to the category of having a harmful effect on the ozone layer of the Earth.

An expert chemist decides the question of whether the substance detected in the atmospheric air, the samples of which were taken from the place of contamination, and the sample of the substance from a certain object are of the same type, and if so, according to the characteristics of which group, whether they do not belong to the same type, variety, brand; whether the substances provided for the comparative study did not come from the same source - whether they were manufactured at the same plant, whether they were released as part of the same production batch, or whether they were previously stored in the same container.

As part of the toxicological examination, it is determined whether the provided objects (air, water, soil samples) contain poisonous substances that are harmful to the health of people, animals, birds, and fish. Radiological examination allows you to detect radioactive isotopes in the provided objects and determine their type.

Today, technical expertise provides significant opportunities in the investigation of criminal offenses in the field of land use, subsoil protection, atmospheric air. An important group of issues resolved with its help are those aimed at establishing the nature of the research objects and their compliance with environmental safety requirements: whether various technical documentation, equipment, treatment facilities, the process of cleaning emissions, used raw materials, materials, fuel meet these requirements. and if not, what is the discrepancy; whether a certain device belongs to the system of treatment facilities of this object; what is the capacity of this treatment plant in comparison with regulatory treatment, and if it is lower than it, then by how much; whether the design, technical condition of the equipment and mode of operation of a certain device allow without the use of treatment facilities.

An expert can establish whether certain technical means are working, and if not, what was the malfunction, what was the reason for it, how does it affect environmental safety; whether there was a technical possibility for its timely detection and elimination. Thanks to this examination, it is possible to find out the possibility of certain technical operations under certain conditions, to solve, for example, the question of whether this involuntary action could have taken place under certain circumstances [10, p. 284].

A separate group includes questions aimed at obtaining an idea of the level of technical control at the facility, which may have been the source of pollution: whether the control of the equipment of the treatment facilities was carried out correctly, whether their timely repair was ensured; whether the quality of the control and measuring devices and equipment used in the company's

analytical laboratory is at the appropriate level, and whether the quality of the analyzes carried out in it meets the proposed requirements.

One of the varieties of technical is technological expertise. The range of issues it resolves is usually as follows: does the technological mode (gas and dust emission cleaning technology) correspond to the approved project (normative requirements), and if not, what is the discrepancy and how does it affect the environmental safety of production; what are the reasons for deviation of the technological process from regulatory requirements; whether the changes in the technological process are substantiated from the point of view of ensuring the environmental safety of production; what are the technological causes of gas and dust emissions in a volume that exceeds the maximum permissible concentrations; whether the technological process is correctly reflected in the relevant accounting documents; whether the fuel, raw materials used at this facility are conditioned, and if not, what is this and how does it affect the production process from the point of view of environmental hazards.

During the assignment of such a type of technical expertise as a construction and technical expertise, the expert is asked the following typical questions: how correctly the design and research work was carried out; whether deviations from the project were allowed during the construction and assembly works, and if so, what they consisted of and whether they could negatively affect the quality of the object in terms of its environmental safety; c) whether the construction and assembly works carried out during the construction of a certain object meet the requirements of environmental safety, whether the construction is provided with reliable means of removal and purification of emissions into the atmospheric air, and if not, what is the non-compliance with the requirements [10, p. 284].

Agrotechnical expertise is assigned when investigating cases of atmospheric air pollution that resulted in damage to agricultural production. Its competence primarily includes establishing the direct causes of the negative consequences of pollution of the natural environment, which harms agricultural crops. At the same time, the following questions are resolved: what is the cause of the death (or damage) of agricultural crops; whether agrotechnical rules ensuring environmental safety are violated when performing certain works (storage, transportation, application of certain toxic substances), and if so, which rules are violated; whether these pollutants could cause harmful consequences for agricultural production.

A separate group consists of tasks aimed at clarifying the facts of non-compliance with sanitary norms and the persons responsible for their violation, as well as establishing the necessary preventive measures (whether sanitary norms were observed during the performance of certain works - design, operation of an economic facility, sewage treatment plant, storage, transportation, destruction of harmful substances, implementation of gas and dust emissions, and if not, which norms are violated; what is the maximum permissible concentration of harmful substances established for these emissions; who should be responsible for compliance with these sanitary norms; what sanitary measures should be taken for this economic facility to

prevent pollution of the natural environment). Sometimes an examination on issues of compliance with sanitary standards is called medical and sanitary [10, p. 285].

When investigating criminal offenses in the field of land use, subsoil protection, atmospheric air, which are associated with negative consequences for the animal world, it may be necessary to appoint a forensic veterinary examination. Its competence includes solving questions about the immediate causes, mechanism, circumstances of the death or illness of animals, actual or possible consequences for animals of pollution of the natural environment by a certain economic object (what are the immediate causes of the death or illness of these animals, birds; is the cause of this exposure of certain substances in the specified concentrations into the air, food; whether the entry of harmful substances into their bodies in connection with the performance of a certain economic operation could cause the death or illness of animals; whether the emission of pollutants affected the productivity of animals, etc.) [11, p. 366–368].

In some cases, in case of atmospheric air pollution, the investigator has to appoint a zootechnical examination. With its help, it is possible to establish, for example, the causes and degree of spoilage of animal fodder, whether the spoilage is not related to the influence of certain pollutants from atmospheric air on the fodder [10, p. 285].

Hydrometeorological expertise is assigned if necessary to solve the following questions: in what direction and on what area certain polluting substances could spread from a given source of emissions under certain meteorological conditions; what should be the concentration of pollutants emitted by this object in this territory depending on certain conditions (distance from the object to the pollution zone, height of exhaust pipes, volume of emissions, wind direction and speed, air temperature); at what time of year and for what period of time these pollutants could move to a certain distance in a certain region; whether toxic chemicals from a certain object could get to the specified territory by air.

Examinations of individual species are carried out in connection with the need to clarify the circumstances related to harm to living organisms - people, animals, birds. An important task of the forensic medical examination is to establish the cause, mechanism of illness or death of a person, real or possible consequences for people caused by pollution of the natural environment, in particular atmospheric air. The specified expertise solves the following questions: what is the cause of death (or illness) of a given person; whether death (or illness) occurred as a result of poisoning, and if so, what substance poisoned the person; whether a certain concentration of these pollutants in industrial emissions into atmospheric air poses a danger to human health, etc. [11, p. 180–187].

It is worth noting that there are practically no situations when the issues solved by experts concern only one component of the environment. Usually, in the process of research, complex connections between various elements of the biocenosis are analyzed.

In order to establish the possibility of causing damage to the environment by industrial emissions, knowledge in the field of medicine, veterinary medicine, agricultural engineering, zootechnics may be required [10, p. 286]. Also, in criminal proceedings of this category, there is a need to conduct land-technical, land evaluation, forensic expertise on land management issues, forensic soil science, forensic handwriting, technical-forensic examination of documents, forensic examination of computer equipment and software products; examinations of special chemicals.

Conclusions. Taking into account the provisions of the current Criminal Procedure Code of Ukraine, it is possible to distinguish three procedural forms of the use of special knowledge that can be used in the investigation of criminal offenses against the environment: independent use of special knowledge by the investigator; participation in criminal proceedings of a specialist; examination.

Forensic examination is the most effective means of performing investigative tasks in proceedings on criminal offenses in the field of land use, subsoil protection, atmospheric air, provided strict compliance with the requirements of criminal procedural legislation, regarding the appointment and conduct of this investigative (search) action. Expertise in the mentioned proceedings should be appointed only in the case when there is a real need for it, when without an expert's answer to certain questions it is impossible to establish the circumstances of a criminal offence.

The analysis of the researchers' theoretical work and the study of investigative and judicial practice materials made it possible to identify the following main types of expertise that are carried out during investigations in the field of land use, subsoil protection, atmospheric air: ecological, forensic chemical, forensic expertise on land management, soil science, construction and technical technical, technological, toxicological, construction-technical, agro-technical, forestry, forensic-medical, medical-sanitary, forensic-veterinary. During the investigation of the specified illegal acts, other types of forensic examinations may be appointed, including, in particular, engineering and technical, biological, dactyloscopic, handwriting, technical and forensic examination of documents, appraisal and land, forensic material examination of oil products, lubricants, fuel and lubricants materials, examination of computer equipment and software products, etc. Depending on the needs of the investigation, these types of forensic examinations can be assigned both at the initial and at the next stage of the investigation.

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