Criminal Characteristics of Criminal Offenses Related to Electricity Theft

Introduction

Kolesnichenko A.N. in 1967, he defended his doctoral dissertation: *Scientific and legal foundations of the investigation of certain types of crimes* that was one of the first fundamental research papers on general theoretical issues of forensic investigation methods, where concept of forensic crime characteristics was proposed. He determined that forensic characteristics is information system on forensically significant signs of this type criminal offenses reflecting natural connections between them and serves to build and verify investigative versions to solve the main tasks of pre-trial investigation. His introduction of this concept as a set of certain signs for analysis and generalization of practical experience aimed to develop methodological recommendations in investigative practice, was supported by a whole cohort of criminalists. Many forensic scientists worked on this issue. Among others whose contribution to theory development forensic characteristics of criminal offense is significant, Vydonov L.H., Vozghrin I.O., Mitrichev S.P., Obraztsov V.O., Pantelieiev I.F., Shepitko V. Iu., should be noted. Tanasevych V.H., Yablokov M.P. et al. Shepitko V.Iu. regarding the researched issue notes the following: “Its (forensic characteristics – author’s note) goal is to optimize crime detection and investigation procedure. The purpose of forensic characteristics is that it contributes to: 1) development

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of separate methods of investigation; 2) construction of typical programs and models of crime investigation; 3) determining investigation direction of a specific crime. This characteristic serves investigator as a kind of information base, a set of information about this type of crimes. Currently, theory of forensic criminal offense characteristics has been formulated and exists in the form of a general image, that in criminalistics is considered as information system, as well as general structure of the constituent elements of this system has been developed and general forensic characteristics of certain types of criminal offenses have been compiled: murders, rapes, thefts, robberies, robbery, fraud, etc. In the general questions of the investigation of thefts, forensic characteristics were detailed in cases of crimes against property: thefts from premises (apartments, houses, hotels, dormitories, shops, warehouses), property of communal, agricultural and industrial enterprises, personal belongings from compartments on railway transport and personal belongings of things on river, air transport, at railway stations, pickpocketing, etc. (E.g., Investigator’s Desk Book). At the same time, it should be noted that issues of forensic characteristics of electrical energy theft were almost not considered. The relatively recent criminalization of criminal offense of electrical energy theft in Criminal Code of Ukraine (E.g., Article 188 of Criminal Code) requires conducting research in this direction and drawing up a criminalistic description of electrical energy theft. Analysis of recent publications proofs that issue of electrical energy theft was studied by Chumachenko T. A, Avdieiev O.O, etc.
Honcharenko O.A., and Skrypnyk V.L., et al. However, a small number of researchers were concerned with forensic characteristics of electric power theft, namely: Diedov Ye. V., Velmozhnyi SA., Rohalin S. V. Research papers by Diedov Ye. V. are distinguished by researches on electric energy theft in practical plane, namely in operational and investigative work. and Velmozhnyi S.A. Influence of an external permanent magnetic field was studied by forensic experts Rohalin S.V., Bohdaniuk I.V., Suprun V.S.
Influence of radio frequency electromagnetic radiation on the compliance of electric energy accounting was studied by Rohalin S.V., Bohdaniuk I.V., Lysyi A.A., with further research by Rohalin S.V. with development of an appropriate research methods. In the article: Specific expertise use in criminal proceedings regarding electricity theft by Rohalin S.V separate structural elements of forensic characteristics of criminal offenses related to the theft of electrical energy are analyzed, in particular, the main ones, such as tools and methods of committing a criminal offense, as well as traces of a criminal offense (in a broad sense). General development state of researched issue actualizes the need to develop a detailed forensic description of the theft of electrical energy.

The research purpose is to review the development state of forensic characterization issue of criminal offenses, build the general structure of the forensic characterization of electrical energy theft, determine its
main constituent elements, divide them into groups, and develop a detailed forensic characterization of electrical energy theft. Reliability of obtained results and conclusions, which were based on the analysis of the latest scientific research on the issues of violation of regulatory requirements regarding accounting of electric energy and not recorded consumption of electric energy, based on the results obtained during the performance of forensic examinations at National Scientific Center «Hon. Prof. M.S. Bokarius Forensic Science Institute» of the Ministry of Ministry of Justice of Ukraine and also ensured the use of a complex of general scientific and special methods, in particular formal and logical one, generalization, comparison.

Scientific novelty. In context of forensic expert provision of evidentiary base in qualification of a criminal act: the theft of electric energy, provided for in Article 188 of the Criminal Code of Ukraine, for the development of new and supplementing existing methodological recommendations for the investigation of criminal offenses by employees of pre-trial investigation bodies, this article elaborates and systematizes data on execution of forensic examinations and a detailed forensic description of electric energy theft was compiled that will become the basis for construction of investigative versions and will contribute to effective conducting investigative (search) actions and other investigative measures, as well as rapid investigation of cases of electric energy theft.

Structure of constituent elements in forensic characteristic

According to Shepitko V.Iu, the criminalistic characteristic of criminal offenses is a fairly new scientific category of criminalistics, which occupies a central place in investigation methods of certain types of criminal offenses. As noted above, existence of a more or less stable forensic characteristic of a particular criminal offense contributes to development, implementation in practical use of appropriate investigative techniques and their further improvement. At the same time, it should be noted that at present there is no single structure of elements that make up forensic

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characteristic of criminal offenses. Similarly, there is no single approach to formation of such a structure for investigation of a particular type of criminal offense.

Vozghrin I.O. considers that “Immediate elements of criminalistic characteristics of the criminal should include the following components”:

1.1.1. Characteristics of the initial information.
1.1.2. Information about of criminal offense topic.
1.1.3. Data on preparation methods, commission and concealment of crimes, as well as the typical consequences of criminal acts.
1.1.4. Information about typical personal characteristics of criminals and victims.
1.1.5. Generalized data on the most common motives of the crime make possible to determine identity of the probable offender and therefore should be included in forensic characteristics of crimes\(^{19}\).

Kolesnichenko O.N. believed that the criminological characteristics encompass the following groups of methodological issues: “a) classification of criminals of this type into varieties and groups; b) typical investigative situations and main lines of investigation; c) description of methods of committing crimes of this type, varieties, consequences of their application and possible ways of establishing criminal; characteristics of the methods of concealment of criminals, typical signs of concealment and their role in establishing the crime and the criminal”\(^{20}\). The aforementioned researcher positions on the issue under consideration are given only as examples that prove the lack of a common opinion regarding the content and structure of this category, however, in general, forensic scientists do not deny its very importance in formation of a certain information model, with the help of which it is possible to put forward certain versions and plan the investigation. Thereby all researchers on this issue are determined about the need for theoretical development and specification of


forensic characteristics in certain types of criminal offenses. Shepitko V. Iu. notes: “Forensic characteristics of crimes have the property of dynamism. This is manifested in the fact that its content can change in relation to certain types (types) of crimes, be supplemented with new information as a result of generalizations of investigative practice. The elements of the forensic characterization of crimes are interconnected”\(^\text{21}\).

Generalization of data on the structure of forensic characteristics allows us to highlight in this article its main elements. The main elements of the forensic characteristic are a set of signs determining: 1) the method of a criminal offense; 2) place and situation; 3) time of criminal offense committing; 4) tools and means; 5) criminal offense topic; 6) complainant (victim) identity; 7) offender identity; 8) typical traces of a criminal offense.

At the same time, it should be noted that not all of the listed components of general forensic characteristics work in the same way in different types of criminal offenses. Some of them acquire primary importance, others, on the contrary, recede into the background or are missing. Taking the above into account, this article considers it necessary to divide constituent elements in the structure of forensic characteristics into: defining signs; the most significant and supporting signs. A list of such signs is provided in this article while preserving the end-to-end numbering of constituent elements of forensic characteristics of electrical energy theft. In the context of investigated issue regarding compilation of a forensic characterization of electric energy theft, the following should be considered a defining sign: 1) topic of a criminal offense; the most significant should include: 2) method of criminal offense committing, as well as its types; 3) tools and means; 4) typical traces of criminal offense; 5) mechanism of trace formation; and as auxiliary signs: 6) place and environment; 7) data on special characteristics of a suspect in commission of criminal offense. It is clear that all the elements of the forensic characteristics are important, they do not exist separately, they complement each other, and in qualification of a criminal offense they appear in aggregate, however, such a group division of constituent elements of the forensic character-

istics of electric energy theft into determining, most significant and auxiliary ones is important and convenient for conducting a further research on these elements and drawing up a forensic characteristic of electrical energy theft as a whole.

Forensic science as a formation source of the most significant components of forensic characteristic of electrical energy theft

Topic definition of encroachment in the general structure of the criminalistic characteristics of the theft of electric energy refers to, so to speak, general criminalistic questions and has been decided unambiguously for the time being. Thus, the Plenum of the Supreme Court of Ukraine in its Resolution: On judicial practice in cases of crimes against property provides the following clarifications regarding the subject of criminal and illegal encroachment in investigated issue: “The subject of crimes against property is property that has a certain value and is someone else’s of the guilty party: things (movable and immovable), cash, precious metals, securities, etc., as well as the right to property and actions of a property nature, electric and thermal energy”\(^2\)\(^2\). Attributing electric energy to the subject of encroachment in criminal offenses against property presupposes application of Article 188\(^1\) of the Criminal Code of Ukraine “Theft of water, electric or thermal energy through its arbitrary use”\(^2\)\(^3\). Commercial essence of electric energy as an object of civil rights with corresponding legal regime of property nature in cases of criminal offenses against property, legal definition issue of the concept of encroachment topic in criminal act: theft of electric energy, as well as some problematic aspects of identification of violations of the requirements of regulatory legal acts as theft of electricity, reviewed by Rohalin S.V. in the article: Specific expertise use in criminal proceedings regarding electricity theft\(^2\)\(^4\).

\(^2\)\(^2\) Pro sudovu praktyku spravakh pro zlochyny proty vlasnosti Postanova Verkhovnoho Sudu Ukrainy vid 06.11.2009 № 10 [On judicial practice in cases of crimes against property Resolution of the Supreme Court of Ukraine dated 06.11.2009 № 10], https://zakon.rada.gov.ua/laws/show/v0010700–09#Text.
\(^2\)\(^4\) S.V. Rohalin, Vykorystannia spetsialnykh znan u kryminalnykh provadzhenniah
It should be noted that a special role in the pre-trial investigation of electricity theft is played by forensic science. Peculiarity of electric energy as the topic of a criminal offense is determined by actions of offenders in preparation, commission and concealment of a criminal offense associated with formation of certain signs, acquisition of changes, new properties of research objects that as a result of forensic examination, become a source of evidence in court. The above gives grounds to believe that consideration of the constituent elements of the second group (the most significant) of forensic characteristics of electrical energy theft should be investigated on the basis of developments in forensic science activity.

Analysis of scientific publications on forensic science issues, the research on individual cases, theoretical structuring of these scientific developments and practical experience of this type of forensic research, generalizations, methodical specification of individual researched cases, etc., indicates that at the present time the issues of unaccounted of electrical energy consumption are the most elaborated in the forensic science, which singles out the forensic science of the investigated issues as the most developed starting point in the matter of drawing up a detailed forensic characteristic of electrical energy theft. In the article: Specific expertise use in criminal proceedings regarding electricity theft a structural division of research directions in forensic examinations of cases of electric energy theft is carried out. The following four directions are highlighted in this research paper:

1) Research on cases of electrical energy theft associated with incorrect use of equipment parameters;
2) Research on cases of electrical energy theft associated with circuit connections;
3) Research on cases of electrical energy theft associated with non-mechanical interference with operation of metering devices;
4) Research on cases of electrical energy theft associated with interference with operation of metering devices by making their design changes.

These areas of research unambiguously determine the ways of crime committing, namely:
1) by replacement (substitution) of equipment parameters;
2) by changing the electrical connection scheme;
3) by non-mechanical impact on operation of electric energy meters of certain types of force physical field;
4) by carrying out constructive changes in devices and means of electricity metering.

Each of the four ways of criminal offense committing has its own varieties, but a smaller division, according to the author, should not be carried out to compile a forensic characteristic of the of electricity theft, because a smaller division is important only for the performance of expert research. As for the actions in the pre-trial investigation, a smaller division does not affect their difference within the same method of committing a criminal offense. In other words, the method of investigating a criminal offense within each of the methods does not change. The established four ways of committing a criminal offense, determine the tools and means of electrical energy theft and are further considered separately in this article.

**Method of committing a criminal offense committed by replacing (substitution,) equipment parameter**

It should be noted that the method of electrical energy theft carried out by changing the parameters of the equipment does not involve use of devices, tools, mechanisms, but is carried out intentionally and knowingly by incorrect parameterization of two-zone and three-zone metering devices, by replacing parameters (nominal data) of the nameplates, using incorrect parameters for calculation losses of electrical energy in elements of electrical networks in case of installation of measuring equipment not at the limit of balance ownership and losses of electrical energy, that are associated with transportation of electrical energy through electrical networks of the main consumer to other participants of retail market. In other words, in the method of committing theft of electric energy carried out by changing equipment parameters, not devices, tools or mechanisms are used, but means thanks to which the parameters of equipment are replaced: electric energy metering devices, measur-
ing transformers of current and voltage, elements of electrical network (overhead and cable lines of power transmission, power transformers, reactors, etc.). Traces in this way of committing a crime have a wider meaning than what is usually understood as a trace evidence topic of research. Typical traces of this type of crime include the following:

1) Interference in parameterization protocol of metering devices by deliberately entering false parameters, for example, the time of internal clock to disrupt its synchronization, which results in the use of inappropriate tariffs in determining the cost of electricity consumed;  
2) structure of electricity losses and the share parts of these losses in electricity consumers, subconsumers and other retail market participants while drawing up the balance of electricity using these metering devices installed at the points of measurement, parameters for calculating losses of electricity in elements of electric networks in the case of installing measuring equipment not on border of balance sheet ownership and losses of electricity associated with transportation of electricity by electric networks of the main consumer to other retail market participants.  
3) Replacement of nameplates, correction of parameter value on nameplates, in documents containing such data for conducting erroneous calculations of electricity losses, balancing, etc.

Mechanism of trace formation in this method of committing a crime carried out by replacing (substitution) equipment parameters is different and is investigated in various types of forensic examinations: electrical, complex electrical and economic, as well as complex electrical, trace evidence and economic ones and in each case has its own characteristic signs and specifics of their installation.

**Method of committing a criminal offense committed by replacing (substitution,) electrical connection scheme**

Varieties of this method of committing a criminal offense include changes in the electrical scheme of connection:

- metering devices on its terminal clamp while changing the phasing (for certain models of metering devices) with subsequent installation of a phase-shifting device;
metering devices on its terminal clamp while installing shunt jumper;
installation of a shunt jumper in the areas of cable (conductor) connection to clamps of metering device;
current transformers with replacement of the procedure for connecting the terminals of the measuring winding;
current transformers with installation of a shunt jumper on the terminals of the primary winding;
current transformers when they are replaced in electrical circuit with inappropriate by transformation coefficient;
voltage transformers in case of voltage disconnection in one phase that distorts accounting of electrical energy in the two-element connection scheme of metering device in overvoltage electrical networks;
on the measuring shoe of commercial metering unit with installation of shunting jumpers on its clamps;
on the transition blocks of relay protection and automation cell (RPA) with installation of shunting jumpers on its clamps.

Tools of this method of crime committing should include:
1) shunting single and group jumpers or those that are assembled in a “star” type circuit and are realized in the form of segments of conductor products terminated with a conductor tip (flat or thin pin) or without termination, in the form of elements that pierce cable sections on pre-recorded circles (needles, welders, pointed nails, self-tapping screws) and attached to segments of conductive products, forming together such a bridge;
2) switching devices involved in the application, if necessary, of changing the recorded electricity consumption to unaccounted and in reverse order, that switching on activates the shunt jumper in the circuit and turns it off from the circuit;
3) phase-shifting devices;
4) arrangement of “artificial” zero.

Typical traces of this method of criminal offense committing are formed when using a typical locksmith tool and a specially made tool for a certain type of locksmith work that can be sophisticated in order to penetrate the pre-accounting circles of commercial accounting nodes, and are formed while using specific devices with mechanical principle of action for retention, displacement, clamping, penetration, unsealing, re-
moval of sealing material, etc. The mechanism of trace formation in this method crime committing, carried out by changing the electrical connection scheme, is different and is investigated in forensic examinations and multidisciplinary and forensic trace evidence examinations for situational tasks with establishing the mechanism of electrical energy theft while changing electrical connection scheme of measuring equipment and identification tasks with by establishing mechanism of trace formation (mainly of a mechanical nature of occurrence) on sealing devices, structural elements of equipment and their parts, on separate sections of cable and conductor products, respectively.

**Method of committing a criminal offense committed by non-mechanical influence on operation of electrical energy metering devices**

Typical cases in this point of division include only two varieties of the method of criminal offense committing when influence of external factors is applied:

1) external permanent magnetic field;
2) directed electromagnetic radiation in radio frequency range.

It should be noted that method of stealing electric energy carried out by applying an external permanent magnetic field and directed electromagnetic radiation in the radio frequency range is possible only under the condition of the formation of physical fields (permanent magnetic and electromagnetic) with certain power characteristics that exceed the threshold value of physical quantities to which electric energy metering devices are not sustainable. Formation of such force fields occurs when the appropriate instrument of a criminal offense is used. Typical tools for committing this method of stealing electrical energy are:

1) permanent magnets made of rare earth metals that have high values of the residual induction of magnetic field;
2) permanent magnets made of alloys of the ferrite group with smaller (compared to the previous item) residual magnetic field induction values, but large in size leading to ability to generate a large magnetic flux;
3) DC electromagnets;
4) radio technical products of industrial production that are sources of electromagnetic radiation: special production, technological, scientific research equipment, as well as radio communication equipment, which is not used for its intended purpose (in violation of the terms of use), but for the purpose of stealing electrical energy during blocking meter operation;

5) home-made radio and technical products that are a source of electromagnetic radiation and are deliberately manufactured for the purpose of stealing electrical energy while blocking metering device operation;

6) arc (spark) electric discharge devices of industrial manufacture for the needs of technological production in industry used not for their purpose (in violation of the terms of use), but for the purpose of stealing electric energy while blocking metering device operation;

7) home-made arc (spark) electric discharge devices, manufactured intentionally for the purpose of stealing electric energy when blocking electric energy metering device operation.

Identifying typical traces in this way of committing a criminal offense, carried out through influence of physical fields on an electric energy metering device, is difficult, because on condition that certain (individual for each constructive implementation of metering device) threshold values of force characteristics of fields are not exceeded, after their action is stopped, metering device resumes its work in full and records the consumed electricity in its accuracy class. At the same time, it should be noted that influence of physical fields (if such influence does not lead to damage or failure of electronic components) does not cause any physical and chemical irreversible changes in materials from which the metering device is made, or their properties, does not leave signs of such influence. The mechanism of trace formation in this method of committing a criminal offense, carried out by influence of physical fields on an electric energy metering device, occurs at the level of the course of complex physical processes in structural materials and in the constituent structural elements of electric energy metering devices: analog-digital controllers based on integrated microcircuits, pulse transformers, chokes, measuring transformers. Traces of influence of physical fields on electrical energy meter are determined by the operation of:
1) indicators of a permanent magnetic field installed by companies that are distribution system operators on the housings of metering devices;
2) built-in magnetic field indicators;
3) built-in electromagnetic field indicators;

Traces of influence of this method of committing a criminal offense can additionally be detected in situational research on event logs formed as a database in an electronic metering device, and according to data of the load profiles of electricity consumer.

The method of committing a criminal offense committed by carrying out constructive changes to devices and means of accounting for electric energy

Commission of a criminal offense in this way occurs with access of an outsider (unauthorized) person to internal constructive space of electrical energy metering devices and metering devices (measuring current transformers, voltage transformers) and is accompanied by the integrity loss (opening, destruction, peeling off) of control devices (means): safety stickers installed at connector locations of the housings; seals of various types: hinged (anchor, crimp), dowel, sealing material, etc., followed by structural changes to devices and means of accounting for electrical energy. Structural changes are carried out in the following widespread ways of their implementation (varieties):

1) by changing the number of windings turns of current and voltage transformers;
2) by changing the beginning and end of the measuring coil with each other inside the case and connecting them to standard clamps of one current transformer from the set installed in the customer's metering unit;
3) making a hole in the housing of the metering devices, pressing the inspection glass in the housing of the induction metering devices to create a gap, etc. for the introduction of foreign objects for mechanical braking or blocking the rotation of the disc or decade drums of the counting device of metering device;
4) by loosening adjustment screw of the axle bracket with the disc for loose coupling of screw drive in induction metering devices;
5) by changing the number of turns in windings of coils of induction metering devices and the turns of primary current and voltage converters in electronic and electronic-mechanical metering devices;
6) installation of jumpers, including by soldering them to printed circuit boards of metering devices;
7) installation (soldering) of reed switch type switching devices with closing or opening of its contacts due to the action of external permanent magnetic field in the wiring diagram of metering devices;
8) installation (soldering) in the wiring diagram of metering devices of switching devices connected to the circuit of remote switching on from an external radio signal from control panel;
9) replacement of radio elements on printed circuit boards;
10) replacement of readings of decade drums of counting devices of induction and electronic-mechanical accounting devices (mechanical reset of readings on counting device).

Criminal offense may be accompanied by concealment of its commission with repeated hanging, installation, pasting of safety, locking devices and seals removed (removed) before penetration into the internal structural space of electrical energy metering devices and commercial metering devices. Criminal offense concealment can occur with installation of falsified locking, safety and sealing devices.

Traces of a criminal offense are recorded when conducting trace evidence and electrotechnical forensic examinations with establishment of trace formation mechanism (mainly of a mechanical nature of occurrence) on sealing devices, component structural elements of accounting devices, as well as the thermal nature of occurrence during soldering work on printed circuit boards of accounting devices. Typical in this way of committing a criminal offense are traces of opening the case and access to the internal space that are recorded in the log of events in certain models of accounting devices, as well as in cases of detection of signs of loss of integrity (opening, destruction, peeling off) of control devices (means): safety stickers installed at the connector locations of the housings; seals of various types: hinged (anchor, crimp), stick, etc. and can be detected visually before the of forensic examination appointment.
Auxiliary elements of forensic characteristics of electrical energy theft

In accordance with division of elements of criminalistic characteristics of criminal offense of electric energy theft carried out earlier, the following auxiliary components are considered:

– crime scene and circumstances;
– data on the special characteristics of a suspect of criminal offense commission.

Scene and circumstances of the commission of the criminal offense of electric energy theft are determined by the location of devices and means of commercial accounting of the consumer’s electric energy. The location of this electrical equipment does not allow for free access by personnel. In the case of electricity consumption by household consumers, with the exception of representatives of controlling institutions who are present for a limited period of time (only for the period of the inspection), access to the own accounting node is mostly limited only to the consumer himself. In the case of electric energy consumption by legal entities, access to the accounting node is also limited to only a small number of electrical personnel. That is, limited access to electrical energy metering nodes is a susceptible factor (environment) for theft as “secret theft” \(^{25}\) (in the wording of the Criminal Code of Ukraine) of electrical energy. Electric energy metering nodes that include metering devices and can additionally include commercial metering devices, are located at household consumers: in electrical panels located in apartments or on floor platforms, in houses, on the facades of buildings or on poles of power transmission lines; for legal entities: in electric cabinets; in input and distribution boards; electrical cabinets of distribution points, distribution devices of transformer substations and complete transformer substations; in separate cells of distribution points, distribution devices of transformer substations, etc.

The following signs can be identified in a person suspected of committing the criminal offense of theft of electrical energy. For committing criminal offense in the manner № 1, 2, and 4 (Chapters 4, 5, and 7, respectively), a person must have a certain level of professional training, and in cases of committing actions in high-voltage distribution devices of transformer substations and complete transformer substations, in separate high-voltage cells of distribution points, distribution devices of transformer substations, such a person must have the 3rd, 4th or even 5th (highest) electrical safety group with permission to work with equipment with a voltage of up to and over 1000 V, should undergo training and knowledge verification, including when working on this equipment involving knowledge of the electrical circuits of this equipment, understanding of the physical processes that occur in certain cases of consumption, distribution and transmission of electrical energy, the occurrence of losses, etc., and also involves access to work with this equipment, possibility of unsealing and sealing of individual places (in the event of a criminal offense committed by the personnel of distribution system operator companies). Committing the theft of electrical energy by method № 2 requires the possession of certain skills in performing locksmith work, and to commit a criminal offense by method № 4, these skills are supplemented with skills and knowledge in performing electrical and radio installation work and knowledge of the elementary base of radio parts and electrical and radio installation schemes of individual models of accounting devices. Criminal offenses committed in method № 3 (see Chapter 6) can be committed both by highly qualified personnel with deep knowledge in the theory of physical fields, and by ordinary persons who have acquired certain devices for committing a criminal offense and have been appropriately instructed by persons who possess such knowledge and produced such devices for sale.

Conclusions

1. Development state of issue of forensic characteristics of criminal offenses is considered.
2. General structure of forensic characteristics of electric energy theft is built.
3. The main constituent elements of forensic characteristics of electric energy theft are determined. It is proposed to divide constituent elements into groups according to a defining sign; the most significant and auxiliary signs.

4. On the basis of generalizations of data based on results of forensic examinations and theoretical elaboration of results of research on issues of unaccounted consumption of electric energy, a detailed forensic description of electric energy theft was developed.

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Abstract

This article purpose is to review development state of the issue of forensic characterization of criminal offenses, build the general structure of forensic characteristic of electrical energy theft, determine its main constituent elements, divide them into groups, and develop a detailed forensic characteristic of electric energy theft. Validity of the obtained results and conclusions that were based on the analysis of the latest scientific research on issues of violation of regulatory requirements regarding the accounting of electric energy and unaccounted consumption of electric energy, on the results obtained during performance of forensic examinations at the National Scientific Center »Hon. Prof. M.S. Bokarius Forensic Science Institute« of the Ministry of the Interior of Ukraine, and also ensured the use of a complex of general scientific and special methods, in particular formal and logical, generalization, comparison.
Scientific novelty. In the context of forensic expert provision of evidentiary base in criminal act qualification: electric energy theft, provided for in Article 188\(^1\) of the Criminal Code of Ukraine, for development of new and supplementing existing methodological recommendations for investigation by employees of pre-trial investigation bodies of criminal offenses; this article elaborates and systematizes data on performing forensic examinations and a detailed forensic description of electric energy theft was compiled that will become the basis for the construction of investigative versions and will contribute to the effective conduct of investigative (search) actions and other investigative measures, as well as quickly.

Conclusions. 1. Development state of issue of forensic characteristics of criminal offenses is considered. 2. General structure of forensic characteristics of electric energy theft is built. 3. The main constituent elements of forensic characteristics of electric energy theft are determined. It is proposed to divide constituent elements into groups according to a defining sign; the most significant and auxiliary signs. 4. On the basis of generalizations of data based on the results of forensic examinations and theoretical processing of research results into the issues of unaccounted electric energy consumption, detailed forensic description of electric energy theft has been developed.

Keywords: accounting device, means of commercial accounting, criminal offense, criminal trespass, criminal offense tools