



Supplementary Notebook (RTEP - Brazilian academic journal, ISSN 2316-1493)

ON THE ISSUE OF CLASSIFICATION OF RISKS OF ENVIRONMENTAL SAFETY OF THE TRANSPORT COMPLEX: LEGAL AND ORGANIZATIONAL ASPECTS

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Abstract: *The article deals with problematic issues of the typology of risks arising in the process of functioning of elements of the transport complex. Their relevance has increased significantly in the context of the coronavirus pandemic. The author's typology of risks on various grounds is presented. The authors prove their essential importance for ensuring the environmental safety of the transport complex at the present stage. On the basis of application of methods of system-structural and systemic-functional analysis investigated the reason, possible options and likely consequences of the risk of safe functioning of transport complex elements as critical infrastructure of the state. The discussed typology of risks and their prevention will contribute to improving environmental safety in transport, as well as solving the problems of reducing the negative impact of the transport system on the environment. The methodology of the formal dogmatic approach used by the authors allowed us to reveal certain contradictions and gaps in environmental and transport legislation. Comparative legal analysis of the legislation of foreign States helped to identify promising areas for optimizing legal regulation in this area. The proposals formulated by the authors to improve the current legislation are relevant and will contribute to ensuring environmental safety in the functioning of elements of the transport complex, solving a number of problems of an environmental and transport and logistics nature.*

Keywords: *environmental safety, typology of risks, coronavirus pandemic, legal framework for ensuring environmental safety, environmental safety in transport, national security.*

INTRODUCTION

Current problems of environmental safety are caused by a whole complex of economic, technical, political and even socio-cultural problems of the world community in the context of the coronavirus pandemic. It is clear that the environmental safety of the transport complex is an integral part of this system. However, there is still no common understanding of the main terms used in the process of legal security. The pandemic has sharpened the scientific debate over the definition of a number of legal concepts and scientific categories that are essential in this process. It is necessary to determine the criteria and grounds for classifying environmental safety risks that are not yet scientifically based and practically based, which creates significant difficulties not only for scientific understanding of current problems, but also for the practice of law enforcement in this area in the complicated conditions of today's economic crisis. Determining the ratio of the content of the concepts of environmental safety of the transport complex and environmental safety in transport is of the most significant importance for developing promising directions and effective measures to ensure these types of safety, as well as reducing the negative impact of the transport system on the environment.

METHODS

Thus, the interdependence of the needs of theoretical understanding of the problems that are the subject of scientific research in this article with the interests of the practice of legal regulation and organization of ensuring the environmental safety of the transport complex, environmental safety in transport, and reducing the negative impact of the transport system on the environment is quite obvious. Moreover, in the context of a pandemic, one should also take into account the fact that environmental and transport security issues are inseparable from national security issues in general. Numerous scientific publications on the problems of environmental law (Rusin, 2010), transport law, legal support of national security contain a significant number of well-founded conclusions about the relationship of these types of security. The analysis of the norms of the Federal law of February 9, 2007 No. 16-FZ "On transport security" and the results of comparative legal and formal dogmatic analysis of environmental and transport legislation gave the authors opportunity to be confirmed in the discussed ideas.

RESULTS

It is axiomatic to say that ensuring national security is one of the most important functions of any state. No less obvious is the fact that it is complex and includes a whole range of types of security that are homogeneous. At the same time, the automorphic nature of various types of security is undeniable, since the form of threats, their eventualization, the degree of danger of certain risk factors depends on the sphere of public life in which the security threat is visualized. Naturally, environmental security and transport security are phenomena of the same order and are structural elements of national security. The concepts of *environmental safety of the transport complex* and *environmental safety in transport* that are of particular interest to us are derived from these two categories.

DISCUSSION

Scientific discussion about the relationship between the terms "environmental safety" and "transport safety" has been conducted in the framework of research in the field of transport law for several years, trying to establish the limits of legal regulation of transport and environmental relations. A strict definition of the legalized terms "environmental hazard" and "transport safety" is key to ensuring a systematic and unambiguous legal regulation. This is what makes it possible to understand the basics of national legislation and the requirements imposed about legal relations arising while functioning of the transport complex, including ensuring environmental safety (Bagreeva, Shamsunov, Zemlin 2019a). At the same time, issues related to the establishment of the ratio of environmental safety of the transport complex, environmental safety in transport, the negative impact of the transport system on the environment and other terms, without an unambiguous definition of which the solution of security problems in this area is impossible (Zemlin, 2018; Dukhno, 2018; Zemlin, Pishchelko, Kharlamova, 2020).

It is quite thoroughly noted that the concept of "environmental safety" "although it does not have its own unique content, it also serves as a significant factor for the construction of general requirements for ensuring conditions and general rules for ensuring "safety" that go beyond the term "environmental protection" (Zhavoronkova, Shpakovsky, 2017). The analysis of the norms of the Federal law of February 9, 2007 No. 16-FZ "On transport security" leads to the conclusion that several norms regulating relations arising in relation to ensuring transport security that are directly related to the issue under study are formally logical and legally and technically flawed. First of all, the article draws attention to the Art. 7 of the Law, which sets requirements for the security levels of transport infrastructure facilities and vehicles, contains a rule that in order to take measures to ensure transport security, different levels of security are established in the transport complex.

We believe that in this case, the legislator allowed the traditional Russian legal practice to confuse the concepts of "danger – security". It is obvious that security, initially considered as a situation where there is no danger, cannot have levels. Either it is there, or it is not. It is only possible to categorize according to the presence of any threatening factors and the level of threats. Accordingly, it is only possible to ensure the safe functioning of the transport complex, including from the perspective of environmental safety, based on an understanding of the degree of danger of certain factors. In this regard, a well-known expert in the field of transport and environmental law N. A. Dukhno notes: "... the process of adopting normative legal acts with the erroneous inclusion of provisions where the term "safety" is called a phenomenon that represents a danger is alarming. It concerns first of all those legal acts, which are expressed in the provisions of the security levels. By its very nature, security can have no levels or degrees. Security is either there or it is not, it is one whole, without division into levels, and there will always be security when there is no danger. A reliable representation of the essence of security logically leads the idea to the possible establishment of hazard levels in all those places where there is no security, but there are real threats. ...Replacing the actual danger with an understanding of security, deliberately hiding behind levels, we deliberately blunt the vigilance of responsible persons who are obliged to ensure transport security, forcing them to present the danger as a kind of security" (Dukhno, 2018).

The results of comparative legal and formal dogmatic analysis of environmental and transport legislation show that there are several ambiguities and uncertainties that

have a negative impact not only on the ability to solve epistemological problems that are essential for legal science, but also to achieve the goals of legal praxiology, which entail problems of law enforcement. First, we are talking about such legal concepts that have a basic, starting character in the perspective of the problem we are considering, as "danger", "threat", "risk", the definition, content and correlation of which in various legal documents are defined in different, sometimes contradictory, ways.

Thus, the national Security Strategy of the Russian Federation, approved by Presidential Decree No. 683 of December 31, 2015, defines a threat to national security as a set of conditions and factors that create a direct or indirect possibility of harming national interests. Thus, the threat is understood as the possibility of harm to protected interests (values). Naturally, the validity of classifying threats into direct or indirect ones is questionable. Nor is it obvious that this type of threat differentiation is appropriate since it obviously has no practical significance. In the Model law on border security (Adopted in Saint Petersburg on 28.10.2010 by Resolution 35-10 at the 35th plenary session of the Interparliamentary Assembly of CIS member States), *the threat to the State security in the border area* is no longer defined as a possibility, but as a danger (a real possibility of causing damage) to society and the State from sources and carriers of danger located or operating in the border area of the State.

Thus, in this case, the threat coincides with the danger, which is defined as the possibility of causing damage. At the same time, the danger occurs when such a possibility is real. The first position, although it contradicts the previously analyzed approach, but in principle has the right to exist, since it is not flawed from the point of view of formal logic. The second makes it possible to assume the presence of both real and unreal possibilities, which clearly does not correspond to the rules of logic, semantics and semiotics, since the "unreality of the possibility" indicates the absence of this possibility, that is, its impossibility. In the Military doctrine of the Russian Federation, approved by the President of the Russian Federation on December 25, 2014, no. PR-2976, *a military danger* is revealed as a state of interstate or intra-state relations characterized by a set of factors that can, under certain conditions, lead to the emergence of a military threat.

In the Traffic Rules, approved by the RF Government Decree of October 23, 1993 No. 1090, *a danger* is defined as a situation that has arisen in the process of road traffic, in which the continuation of movement in the same direction and at the same speed creates a threat of a traffic accident. Thus, the logic of the legislator here is absolutely different from that in the previously analyzed documents: *a danger entails a threat*, in fact, creating it. In the Strategy for Economic Security until 2030, approved by Decree of the President of the Russian Federation No. 208 dated May 13, 2017, *the risk* in the field of economic security is defined as the possibility of damaging the national interests of the Russian Federation in the economic sphere in connection with the implementation of *the threat* to economic security.

It seems that the examples given are sufficient to support the conclusion that the terminological confusion allowed in normative legal acts is obvious and widespread. D. V. Iroshnikov offers an interesting and noteworthy author's collection of interesting nastermins. In his opinion, "danger is a potentially existing possibility of harming the protected vital interests of the individual, society and the State. At the same time, the existing danger does not always generate threats." Further, noting that, in essence, "challenge", "threat" and "risk" are different forms of manifestation of danger, the author defines the concepts of interest to us as follows: "a threat is a direct or indirect possibility of causing damage to specific vital interests of an individual, society and the State. That is,

this or that threat can become a "conductor" of danger to damage; the threat comes from the danger; danger causes damage through a threat (carries a threat). Risk in its essence is a synthesis of the categories "degree of probability of damage" and "behavior". Risk can be defined as an action (inaction) that endangers or affects the likelihood of its occurrence" (Iroshnikov, 2017).

It seems to us doubtful the solidity and expediency of highlighting direct or indirect possibilities. The same kind of doubt is raised by the definition by the same author of risk as an action (inaction) "endangering or influencing the probability of its occurrence". The insufficient substantiation of this kind of statement is evidenced, among other things, by the results of a comparative legal analysis of the legislation of developed states. In most foreign countries, to systematize such facilities, the violation of the conditions for the safe functioning of which can have significant political and military consequences, the term "critical infrastructure" has been introduced (Barannik, 2009).

It is obvious that the elements of the transport complex, the disabling of each of which, including due to the "cascade effect", can lead to damage comparable to the strikes inflicted by the armed forces, are thoroughly attributed to the infrastructure of this kind (Zemli, Kozlov, 2019). An analysis of US legal acts shows the degree of state legal regulation of these issues. In particular, the National Strategy for Homeland Security identifies the main threats to US national security interests and provides recommendations for protecting key US resources and infrastructure (National Strategy for Homeland Security, 2002). The National Strategy for the Physical Protection of Critical Infrastructures and Key Assets (2003) and Homeland Security Presidential Directive Nº7 (2003) define national policy directions for federal departments and agencies to protect critical infrastructure from terrorist attacks, delineate the roles and responsibilities of the Department of Homeland Security and other agencies, and adjust their interaction to protect critical infrastructure.

National Infrastructure Protection Plan (2006) is a national program and contains a list of tools that ensure interaction in the interests of achieving the security of the state's infrastructure, implementing long-term programs to reduce threats, and achieving maximum effect in the use of resources aimed at protecting the state's critical infrastructure. National Infrastructure Protection Plans (2007) establish specific measures to ensure the security of critical infrastructure of the state in various sectors of the US economy, etc. The analysis shows that the fundamental approach to the construction and implementation of the Plan for the Protection of the National Infrastructure of the State is, in particular, the comprehensiveness, complexity, completeness and reliability of assessing the state of the infrastructure, the use of complex analysis and modeling methodologies when assessing possible risks. The "risk" category is basic for the development of proposals for eliminating possible security threats. In order to ensure the environmental safety of the functioning of the elements of the transport complex, the risk-oriented approach, in our opinion, is not only quite applicable, but also the most expedient.

In the framework of our study, the risk will be considered as the probability of occurrence of events that threaten the normal functioning of elements of the transport complex (vehicles and transport infrastructure facilities) that can lead to a violation of the environmental safety system. At the same time, we will pay attention to situational features that influence the onset of negative consequences. The risk should be analyzed by examining the situational dimension. This approach is widely and very successfully used in the framework of risk management (Vladimirov et al., 2000; Vorobiev, 2007). In

addition, the current stage of development of society is characterized by an urgent need to develop programs to ensure the protection of critical elements of transport infrastructure. In addition, the measures developed and implemented to protect critical infrastructure do not fully correspond to the level of modern threats. The authors offer a variant of assessing and classifying the risks of ensuring the safety of elements of the transport complex, based on theoretically verified concepts. The method of taxonomic analysis was used, which allowed obtaining a positive research result of epistemological analysis of necessary social phenomena (Biryukov, 1992).

Risks should be distinguished according to the degree of probability of their occurrence: unlikely - the likelihood of occurrence is low and possible, as a rule, as a result of significant external influences, it is advisable to carry out systematic planned control observations, there is no need for special control; probable - the occurrence of a risk is possible and can occur both as a result of external influences and as a result of internal factors, including the self-development of an element; to prevent it, it is necessary to monitor external and internal factors, develop and take appropriate measures; inevitable - the risk is expected, the occurrence of adverse consequences cannot be prevented, a set of measures should be developed to minimize them, including the preparation of duplicate elements, liquidation at this element of the transport complex, as well as preventing their occurrence on interacting elements.

By the level of impact on the safe functioning of a system element, the risk can be classified as: insignificant - does not significantly affect the optimal and efficient functioning of the system element; moderate - the possible impact of emerging threats on the normal functioning of a system element; high - the impact of emerging threats on the safe functioning of a system element.

According to the degree of significance of emerging threats and possible consequences for the security of the system, it seems possible to determine the risk as: insignificant - not having a significant negative impact on the element of the system; significant - having a significant negative impact on an element of the system and / and capable of affecting the normal functioning of other elements of the system; large - capable of negatively affecting the normal functioning of several elements of the system and / or entailing significant damage to the security of the system as a whole; especially large - capable of causing severe and / or irreparable damage to the security of the system as a whole.

According to the impact on the security state of the system, the following risks are distinguished: direct - directly affecting the degree of safety of this element of the system; indirect - mediating the emergence of threats in other elements of the system, interrelated with the element in relation to which the risk arises.

At the time of occurrence, the risk can be: arising immediately - entailing threats to the system element immediately from the moment of the assessed event; delayed - the occurrence of a threat is likely after a certain period, the occurrence of an event. Delayed risks, in turn, should be specially classified into two types of risks: temporary - arising after the expiration of a period necessary for the accumulation of the potential of negative factors; situational - arising in connection with an event that has occurred, which may include a reduction in the competitive environment, duplicate sources, as well as external threats - including geopolitical, military, foreign economic, - threats (Bagreeva, Shamsunov, Zemlin, 2019b).

CONCLUSION

Justification the existing contradictions between the needs of practice of legal regulation and organization of activity of subjects of a transport complex and other involved individuals in order to counter the threats of ecological safety in transport, which is epistemological in nature and manifested in the identified authors of the terminological confusion in determining the basic categories of "security", "threat" and "risk" allowed not only in the scientific literature, but in the regulations which suggests the need for a comprehensive scientific study of these issues using, first of all, the tools of legal hermeneutics. In this regard, the recommendations formulated by the authors to clarify the concepts under study, the legalization of which in positive law can help to eliminate existing conflicts and gaps, clearly demonstrated by the authors, are of significant practical significance.

In the implementation, enforcement and management activities in the transport condition for the effective prevention of possible threats of ecological safety should be based on mandatory compliance with principled approach about ensuring the comprehensiveness, complexity, completeness and reliability assessment of transport infrastructure, modeling and evaluation of possible risks, which in turn is the basis for the visualization and differentiation of the probable adverse effects and the development of proposals to address possible security threats. The authors, having revealed the typology of risks, prove the need to clarify the concepts of risk, threat, danger in environmental and transport legislation. Clarity of wording will ensure a greater degree of rigor and ensure that the limits of legal regulation are unambiguous, taking into account the specifics of risk typology. The unity of theoretical concepts will ensure proper unification of approaches to the application of legal norms of environmental and transport law in the interests of ensuring the environmental safety of the transport complex, environmental safety in transport, and reducing the negative impact of the transport system on the environment.

The presented classification of environmental safety risks in the process of functioning of elements of the transport complex, of course, is not exhaustive. It reflects only some of the results of the authors' scientific reflection, based on the understanding of the multidimensional nature and special relevance of the issue under investigation during the pandemic period. The author suggests a way to understand the need to eliminate gaps and contradictions in legislation based on scientific study of the issue using effective tools of legal research. The methods of system-legal, formal-dogmatic and corporate-legal analysis, which were not previously used in relation to the research needs of the problems set by the authors, as well as the achievements of legal hermeneutics, are applied. The authors only outlined the ways of discussing an urgent problem in scientific and practical aspects. Its solution can contribute to ensuring the safety and efficiency of the structural elements of the transport complex, which, in turn, can have a positive effect on increasing the level of national, regional and global environmental security in modern conditions.

REFERENCES

- 1 Bagreeva, E.G., Shamsunov, S.K., Zemlin, A.I. (2019a). Does Environmental Safety Depend Upon the Legal Culture of Transport Specialists? *Ekoloji*, 107, 4961-4965.

- 2 Bagreeva, E.G., Shamsunov, S.K., Zemlin, A.I. (2019b). Environmental Safety Conditions in the Transport Sector by Improving the Culture of Lawmaking. *Ekoloji*, 28(107), 4071-4076.
- 3 Barannik, A.C. (2009). Organization of security of critical infrastructure in the United States. *Foreign military review*, 8, 3-10.
- 4 Biryukov, V.V. (1992). Some aspects of the application of the systematic approach and methods of simulation modeling in assessing the military threat, in: *Modern problems of national-state and interstate security*. Moscow.
- 5 Dukhno, N.A. (2018). Safety and hazard levels in transport. *Transport law and safety*, 4(28), 11 – 18.
- 6 Homeland Security Presidential Directive №7. (December 2003). Retrieved from: <https://fas.org/irp/offdocs/nspd/hspd-7.html>.
- 7 Iroshnikov, D.V. (2017). Correlation of the concepts of "danger", "threat", "challenge" and "risk" in the legal doctrine, current legislation and documents of strategic planning. *Transport law and security*, 12(24), 96 – 103.
- 8 National Infrastructure Protection Plan. (October 2006). Retrieved from: <https://fas.org/irp/agency/dhs/nipp.pdf>.
- 9 National Infrastructure Protection Plans. (May 2007). Retrieved from: <https://www.dhs.gov/national-infrastructure-protection-plan>.
- 10 National Strategy for Homeland Security. (July 2002). Retrieved from: <https://www.dhs.gov/national-strategy-homeland-security-october-2007>.
- 11 Rusin, S.N. (2010). Conceptual problems of environmental safety and state environmental policy (legal aspect). *Environmental law*, 5, 12 - 18.
- 12 The National Strategy for the Physical Protection of Critical Infrastructures and Key Assets. (February 2003). Retrieved from: <https://www.dhs.gov/national-strategy-homeland-security-october-2007>.
- 13 Vladimirov, V.A., Vorobiev, Yu.L., Malinetskiy, G.G. (2000). Risk management, in: *Risk, sustainable development, synergy*. Moscow: Nauka.
- 14 Vorobiev, O.Yu. (2007). *Eventology*. Krasnoyarsk: Siberian Federal University.
- 15 Zemlin, A., Pishchelko, A., Kharlamova, Y. (2020). Problems of realisation of public oversight in the field of transport counterterrorism policy. *Kutafin University Law Review*, 7(1), 67 – 78.
- 16 Zemlin, A.I, Kozlov, V.V. (2019). *Counteraction to terrorism. Organizational and legal support in transport*. Moscow: Yurayt Publishing House.
- 17 Zemlin, A.I. (2018). *Legal problems of transport security: monograph*. Moscow: MIIT Law Institute.
- 18 Zhavoronkova, N.G., Shpakovsky, Yu.G. (2017). *Legal support of environmental safety in the context of economic integration of the Russian Federation: monograph*. Moscow: Prospect.