



Medical Examinations of Employees Involved in Traffic and Transportation



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ABSTRACT

The article is devoted to the study of the legal regulation of medical examinations of transport employees and identification of problems of differentiation of the legal regulation of relations in this area.

The subject of the study refers to the legal norms that establish the list of persons subject to mandatory medical examination, the factors to be assessed during the conduct of a medical examination, as well as the procedure for conducting medical examinations.

The objective of the study is to formulate the problems of legal regulation of medical examinations of employees involved in traffic and transportation, as well as to identify the need and real possibility of differentiating the legal regulation of medical examinations for various modes of transport, comprising road, railway, water and off-street transport.

Empirical research consists of several stages. At the first stage, a selection of modes of transport was carried out that included road, railway, water, and off-street transport. Within the framework of the second stage, using systematic, formal legal and comparative legal methods, the legislation regulating the medical examinations of employees employed in these modes

of transport was analysed.

The results of the study show that today there is no legal act regulating the list of professions and positions and the procedure for passing a pre-trip (pre-shift) medical examination both for the entire crew of sea and river ship, and for employees whose labour function is directly related to vehicle movement; many normative acts come into conflict with each other and are partly outdated. In addition, as a result of the study, the authors established a digital transformation trend common to the legal regulation of most modes of transport: employers at the local level are trying to introduce automated systems for medical examinations to save financial and time resources. However, at the legislative level, such novelties are permissible only in relation to aviation personnel. At the same time, the methods of conducting medical examinations, the established indicators and traumatic factors are not reoriented to conduct an examination through the use of digital technologies. The study concludes that there is a need for a differentiated approach to the legal regulation of the medical examination of employees involved in movement of transport vehicles, depending on the mode of transport.

Keywords: medical examinations, transport employees, air transport, railway transport, water transport, off-street transport, road safety.

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INTRODUCTION

The transport sector is one of the most important spheres of public life from the point of view of the economy and public order. A variety of modes of transport ensures satisfaction of the needs of a person, the society as a whole and the state. This is a significant segment of the employment sector in our country, a source of taxation, as well as a source of increased danger, both for road users and others. All this leads to increased requirements for quality of legal regulation in this area and makes any mistake of the rule-making bodies even more tangible in terms of possible negative consequences that pose a threat, first of all, to human life and health.

Sources of increased danger include, among other things, vehicles, and activities that create an increased danger to others, including those associated with the use of a source of increased danger, oblige those involved in it to be especially careful and prudent, since it greatly increases the risk of harm to third parties, which leads to introduction of rules imposing on the owners of sources of increased danger – in comparison with persons whose activities are not associated with increased danger.¹ Thus, any issues related to the transport sector are of particular practical importance and carry a significant risk of adverse consequences, including the death of a person.

Public relations arising in the field of transport constitute a multidimensional phenomenon, regulated by different branches of law. One of them is labour law, which, among other things, establishes requirements for such an important safety factor as medical examinations of persons participating in movement of vehicles. The difficulty in this matter lies in the fact that a «double differentiation» is needed in legal regulation, which can be described as horizontal and vertical differentiation, and both directions need their own special regulatory approach, considering the specifics of this particular block of social relations. So, on a horizontal

«cut» it is possible to distinguish different modes of transport according to the criterion of the environment (air, ground, underground, water), according to the criterion of the presence of accompanying supervision – its presence (air transport controller, as well as similar employees in ground, underground and water transport) or absence (for example, taxi drivers). In regulatory legal acts, off-street transport is separately distinguished, which includes metro, monorail transport, transport cableway, transport funicular.²

This is far from an exhaustive classification, which is then supplemented by categories of positions and professions of employees involved in movement of the vehicles of a particular mode of transport. Thus, the requirements for a dispatcher in the field of air transport and a taxi fleet dispatcher are not the same due to differences in functionality, as well as in connection with different modes of transport: air and road ones in this case. Even a separate aspect of regulation of the peculiarities of their labour and legal status in terms of medical examinations, already at a first approximation, seems to be multifaceted and complicated from the point of view of choosing a model of legal regulation that is suitable specifically for each mode of transport. The general norm is Part 1, 3 Art. 220 of the Labour Code of the Russian Federation,³ according to which employees engaged in work related to vehicle traffic undergo mandatory preliminary (upon employment) and periodic (during employment, for persons under the age of 21 – annual) medical examinations to determine the suitability of these employees for performance of assigned work and prevent occupational diseases. At the same time, for certain categories of employees, mandatory pre-shift (pre-trip), post-shift (post-trip) medical examinations, medical examinations during the working day (shift), as well as medical examinations before performing certain types of work, may also be stipulated. The purpose of medical examinations in sectoral health care is dynamic monitoring of

¹ Ruling of the Constitutional Court of the Russian Federation of March 10, 2017 No. 6-P «On the case of checking the constitutionality of Article 15, paragraph 1 of Article 1064, Article 1072 and paragraph 1 of Article 1079 of the Civil Code of the Russian Federation in connection with complaints from citizens A. S. Arinushenko, G. S. Beresneva and others». [Electronic resource]: <https://legalacts.ru/doc/postanovlenie-konstitutsionnogo-suda-rf-ot-10032017-n-6-p-po/>. Last accessed 05.10.2022.

² Article 4 of the Federal Law «On off-street transport and on amendments to certain legislative acts of the Russian Federation» dated December 29, 2017 No. 442-FZ. [Electronic resource]: http://www.consultant.ru/document/cons_doc_LAW_286788/. Last accessed 05.10.2022.

³ Labor Code of the Russian Federation dated December 30, 2001 № 197-FZ. [Electronic resource]: http://www.consultant.ru/document/cons_doc_LAW_34683/. Last accessed 05.10.2022.

the state of health, prevention of complications, preservation of working capacity in the conditions of the use of intensive technologies in transport, which increases the requirements for health [1, p. 100; 2, p. 102].

Considering the objectively existing nature of the work of employees of various modes of transport, *the objective* of this study is to identify the problems of legal regulation of medical examinations of transport employees, as well as formulate the best practices for solving these problems at the legal level. In addition, the study is supposed to answer the question about the need for digital transformation of the procedure for passing a medical examination by employees involved in movement and control of vehicle movement, as well as differentiation of the rules for passing medical examinations by employees of various modes of transport.

To achieve the set goals, the article proposes to make a selection of regulations that mediate the medical examination of employees of various modes of transport, and then analyse the legal regulation of this area using systematic, formal legal and comparative legal *methods*.

RESULTS

In connection with the digitalisation course taken by the state authorities, one of the goals of development of the transport system is, among other things, the digital transformation of the industry and the accelerated introduction of digital technologies.⁴ Of course, progress in the transport industry is associated with development and implementation of new technologies, including information technologies: to achieve strategic objectives, it is planned to intensify the transportation process, increase the speed of movement, the intensity of traffic flows, and the level of automation of processes and operations. We believe that all these changes significantly increase the role of the human factor: the speed of perception of information signals increases, in connection with which the requirements for physiological and psychological aspects of the employee's performance of the labour function

increase, therefore, the requirements for his state of health change.

Regulations on Medical Examinations of Employees of Certain Modes of Transport

The following modes of transport are distinguished: air (civil aviation), sea and inland waterways, railway, road and off-street.⁵ Considering the specifics of each mode of transport, an appropriate regulatory framework has been developed and is in force, regulating the passage of medical examinations of drivers. However, if for the vast majority of modes of transport in 2020–2021 it was updated, the procedure for undergoing pre-shift, pre-trip and post-shift, post-trip medical examinations of road and off-street transport employees is still regulated by the 2014 regulatory act, and the list of professions of the crews of sea and river transport, the instruction on conducting mandatory and periodic medical examinations was approved in 1989,⁶ and cancelled in 2012, since then there has been no special regulatory regulation of this issue. In fact, the crew of sea and river transport undergoes a preliminary and periodic medical examination, guided by the general procedure for conducting medical examinations of employees working under harmful and (or) dangerous working conditions.⁷

A significant number of studies have been devoted to the study of the problems of conducting a medical examination of railway employees [3–5]. Railway employees who carry out production activities directly related to movement of trains and shunting work

⁴ Decree of the Government of the Russian Federation of November 27, 2021 3363-р «On the Transport Strategy of the Russian Federation until 2030 with a forecast for the period until 2035 // RLS Consultant Plus. [Electronic resource]: http://www.consultant.ru/document/cons_doc_LAW_402052/. Last accessed 05.10.2022.

⁵ Decree of the Government of the Russian Federation of July 30, 2004 No. 395 «On approval of the Regulations on the Ministry of Transport of the Russian Federation» // RLS Consultant Plus. [Electronic resource]: http://www.consultant.ru/document/cons_doc_LAW_48722/. Last accessed 05.10.2022.

⁶ Order of the Ministry of Health of the USSR «On improving the organization of medical and sanitary support for employees in the sea, river fleet and fisheries» dated September 06, 1989 No. 511. [Electronic resource]: <https://docs.cntd.ru/document/902359259/>. Last accessed 05.10.2022.

⁷ Order of the Ministry of Health of the Russian Federation «On Approval of the Procedure for Mandatory Preliminary and Periodic Medical Examinations of Employees, Provided for by Part Four of Article 213 of the Labor Code of the Russian Federation, a list of medical contraindications for work with harmful and (or) dangerous production factors, as well as work in the performance of which mandatory preliminary and periodic medical examinations are carried out» // RLS Consultant Plus. [Electronic resource]: http://www.consultant.ru/document/cons_doc_LAW_375353/. Last accessed 05.10.2022.



undergo mandatory pre-trip or pre-shift medical examinations, as well as, at the request of employers, medical examination for the state of intoxication (alcoholic, narcotic or other toxic intoxication).⁸ These medical examinations are undergone by drivers and assistant drivers of a diesel locomotive, electric locomotive, electric train, trolley, etc.⁹ The procedure for conducting mandatory pre-trip or pre-shift medical examinations in railway transport is approved by a by-law.¹⁰

Medical examinations are also envisaged for air transport employees. Pre-flight and post-flight medical examinations of civil aircraft crew members, as well as pre-shift and post-shift medical examinations of air traffic controllers are carried out in order to identify signs of conditions and diseases that interfere with performance of work duties, including alcohol, narcotic or other toxic intoxication and residual effects of such drunkenness.¹¹

Off-street transport employees who perform work directly related to movement of rolling stock of off-street transport, ensuring safety of rolling stock or ensuring safety of passenger transportation or shunting work, undergo mandatory medical examinations at the beginning of the working day (shift) and at the end of the working day (shift) [6–9]. Medical provision of road safety includes pre-trip and post-trip medical examinations of

vehicle drivers.¹² The procedure for employees of road and off-street transport is determined by a by-law.¹³

To date, there is no special legal regulation of the procedure for a medical examination of sea and river transport crew members: there is no list of professions and positions of employees directly related to traffic and traffic control, there is no provision for passing a pre-trip medical examination, and there is also no procedure for passing medical examinations, taking into account the specifics of sea and river transport. We believe that this circumstance is a gap in the legal regulation of the labour of transport employees, and therefore the sectoral peculiarity of labour regulation (a source of increased danger, territorial remoteness, isolation conditions) is not taken into account, which ultimately may have adverse consequences for passengers and the state as a whole [10].

Problems Related to Remote Medical Examinations

Further, it seems necessary to analyse the problematic aspects of the procedure for passing medical examinations of transport employees, which are already the subject of scientific research [11]. Following the development of digital technologies, digitalisation of personnel records management, expansion of the use of remote work, the legislative regulation of these processes, as well as amendments to the legislation¹⁴ in terms of securing the possibility of using telematic technologies, the question of the possibility of conducting medical examinations, especially of pre-trip and pre-shift ones, in a «remote» format becomes relevant and problematic, which led to the emergence on the market of a huge number of organisations offering software and hardware

⁸ Article 25 of the Federal Law «On railway transport in the Russian Federation» dated January 10, 2003 № 17-FZ // RLS Consultant Plus. [Electronic resource]: http://www.consultant.ru/document/cons_doc_LAW_40443/. Last accessed 05.10.2022.

⁹ Order of the Ministry of Transport of the Russian Federation «On Approval of the List of Occupations of Railway Transport Employees Engaged in Production Activities Directly Related to Train Movement and Shunting Work, who undergo mandatory pre-trip or pre-shift medical examinations, as well as, at the request of employers, a medical examination for intoxication (alcoholic, narcotic or other toxic intoxication)» dated February 02, 2021 No. 26// LRS Garant. [Electronic resource]: <https://base.garant.ru/400388427/>. Last accessed 05.10.2022.

¹⁰ Order of the Ministry of Transport of the Russian Federation «On approval of the Procedure for conducting mandatory pre-trip or pre-shift medical examinations in railway transport» dated January 12, 2021 No. 4. [Electronic resource]: <http://publication.pravo.gov.ru/Document/View/0001202102080028/>. Last accessed 05.10.2022.

¹¹ Part 6, Art. 53.1 of the Air Code of the Russian Federation dated March 19, 1997 r. № 60-FZ // RLS Consultant Plus. [Electronic resource]: http://www.consultant.ru/document/cons_doc_LAW_13744/. Last accessed 05.10.2022.

¹² Art. 23 Federal Law «On road safety» dated December 10, 1995 № 196-FZ // RLS Consultant Plus. [Electronic resource]: http://www.consultant.ru/document/cons_doc_LAW_8585/. Last accessed 05.10.2022.

¹³ Order of the Ministry of Health of the Russian Federation «On approval of the Procedure for conducting pre-shift, pre-trip and post-shift, post-trip medical examinations» dated December 15, 2014 No. 835n// RLS Garant. [Electronic resource]: <https://www.garant.ru/products/ipo/prime/doc/70880038/>. Last accessed 05.10.2022.

¹⁴ Article 10 of the Federal Law «On the basics of protecting the health of citizens in the Russian Federation» // RLS Consultant Plus. [Electronic resource]: https://www.consultant.ru/document/cons_doc_LAW_121895/?ysclid=lawbxytmr3605757628/. Last accessed 05.10.2022.

systems for conducting «remote» medical examinations.

These practices were generated by the vagueness of the wording of the regulations governing the procedure for conducting medical examinations: in particular, not a single act states that pre-trip medical examinations are carried out in a «face-to-face» form with direct contact between the person being examined and the medical employee, it is indicated only by whom, where and when they are held. So, pre-shift, pre-trip and post-shift, post-trip medical examinations of road and off-street transport employees are carried out by medical employees with higher and (or) secondary vocational education, a medical organisation or other organisation engaged in medical activities with a license to carry out medical activities that provides for performance of work (services) for medical examinations. Conducting pre-trip or pre-shift medical examinations of employees whose production activities are directly related to movement of trains and shunting work on railway transport is carried out in a room (waiting room and medical reception room) located in a depot, line point, locomotive crew exchange point or locomotive turnover point before leaving for a trip (flight) or at the beginning of a work shift upon presentation of an official ID.

Pre-trip medical examinations of employees of road, off-street, railway and air transport are carried out in order to identify: conditions and diseases that impede performance of work duties, signs of alcohol, drug or other toxic intoxication.¹⁵ It is possible to find out these circumstances only by establishing the corresponding changes in physiological and other indicators of the vital activity of the human body, however, during the pre-trip medical examination of railway employees who carry out production activities directly related to movement of trains and shunting work, the presence of psycho-traumatic situations and factors deteriorating performance is also revealed [12]. We believe that identification of these circumstances formally, by answering the questions asked by the software package, does

¹⁵ Clause 2 of the Order of the Ministry of Health of the Russian Federation «On approval of the Procedure for conducting pre-shift, pre-trip and post-shift, post-trip medical examinations» dated December 15, 2014 № 835n // Information system Garant. [Electronic resource]: <https://www.garant.ru/products/ipo/prime/doc/70880038/>. Last accessed 05.10.2022.

not meet the requirements for ensuring transport security and can only be carried out by a medical employee.

Let us explore the trend of development of legislation on this issue. The introduction of an automated centralised database of personal data regarding the health status of civil aircraft flight crew members and air traffic controllers provides for information on the results of medical examinations, mandatory medical examinations and is an integral part of the single state information system for ensuring transport security.¹⁶ We believe that formation of the above database is planned to be carried out, among other things, by transferring information about the results of pre-flight inspections of the flight crew to it. In pursuance of this provision of the law, an order was adopted by the Ministry of Transport of the Russian Federation,¹⁷ according to which, from September 01, 2022, it should be possible to conduct pre-flight (pre-shift) medical examinations using software and hardware systems that perform real-time express analysis of heart rate readings, arterial pressure, body temperature, determination of the alcohol content in exhaled air, providing automated remote transmission of information about the health status of employees. The only requirement for an automatic inspection is to provide identification of the identity of the aircraft crew member or air traffic controller (ATC).

In case of disagreement of a crew member, air traffic controller with the results of an automated medical examination, a second medical examination is carried out by a medical employee. Obviously, the medical employee will conduct a pre-flight (pre-trip) examination in case of suspicion about the presence in the body of an employee of narcotic and psychotropic substances and their metabolites, new potentially dangerous psychoactive substances or intoxicating substances, as well

¹⁶ Article 53.3 of the Air Code of the Russian Federation dated March 19, 1997 № 60-FZ // RLS Consultant Plus. [Electronic resource]: http://www.consultant.ru/document/cons_doc_LAW_13744/. Last accessed 05.10.2022.

¹⁷ Order of the Ministry of Transport of the Russian Federation «On approval of the Procedure for conducting pre-flight and post-flight medical examinations of civil aircraft crew members, as well as pre-shift and post-shift medical examinations of air traffic controllers» dated December 10, 2021 No. 438 // Information system Garant. [Electronic resource]: <https://base.garant.ru/403300518/>. Last accessed 05.10.2022.



Table 1

The number of employees who died in accidents with vehicles in the Russian Federation, pers. [according to Rosstat [Federal Statistics Service] as for 2020]

Transport mode	2000	2005	2010	2015	2020
Railway	3	1	data are not provided	3	1
Road	29 300	34 000	26 000	23 100	16 200
Water	8	16	13	17	7
Air	20	56	34	60	35

as a post-flight (post-shift) medical examination with mandatory preliminary chemical-toxicological examination (rapid testing) of urine for the presence of narcotic and other psychoactive and toxic substances and their metabolites in the body.

Can this legal regulation, introduced for one category of employees, become a general trend in development of regulation in relation to the entire transport sector? On the one hand, one can answer in the affirmative: it is precisely this vector of development that is seen as a priority in the near future. On the other hand, an analysis of the statistics on those killed in road traffic accidents in the Russian Federation since 2000 allows us to conclude that the road transport is several thousand times more dangerous than air, water and railway modes of transport.¹⁸ It seems that in relation to the road mode of transport, postponing the transition to a remote format for conducting medical examinations is justified.

It should be noted that modern studies in terms of the impact of digitalisation on medical examinations of transport employees generally positively assess the consequences of replacing doctors with modern technologies in the context of saving the financial resources of the employer [13; 14]. At the same time, a number of studies, for example, those conducted by O. Melnik, M. Nikiforov *et al.* [15] are devoted to identifying technical and operational factors that reduce reliability of assessment of the driver's condition. According to the authors, these include: the issue of user identification, the independent use of non-contact thermometers by drivers, the lack of methods and means for detecting the presence of narcotic and psychotropic substances that violate the functional state, the inability to determine the psycho-emotional state of the driver without personal contact with the doctor.

¹⁸ Official statistics. Transport vehicles and accidents with rolling stock. [Electronic resource]: https://rosstat.gov.ru/working_conditions/. Last accessed 05.10.2022.

The inability to use digital technologies to detect and measure the level of concentration of narcotic and psychotropic substances that violate the functional state is confirmed by the studies of domestic scientists V. V. Bakutkin, I. V. Bakutkin, V. A. Zelenov [16]. The importance of the problem under consideration is also confirmed by foreign studies. For example, studies by Italian scientists on drug detection methods by employees in the civil aviation and airport sector found that urine collection is the only method for detecting the presence of opiates, cocaine, cannabinoids, amphetamines, methamphetamines and methylenedioxymethamphetamine (MDMA) using an immunochemical test [17].

Problems Related to Platform Work

It is also important to raise the issue of medical examinations of the so-called «platform» employees engaged in transportation of passengers. It should be noted that today road users are not only transport employees, but also persons entering into public relations that arise in the process of moving people and goods with or without vehicles within roads – called «platform» employees, who currently are formally excluded from the subject of labour law. Providing services in the field of transportation of passengers without registering as a legal entity or individual entrepreneur and without formalising an employment relationship with a taxi company, these persons are not subject to the requirements of the Federal Law «On Road Safety»: they are not required to undergo mandatory preliminary, periodic and pre-trip medical examinations, neither to carry out activities to improve the skills of providing first aid to victims of road traffic accidents (Article 20).

We believe that these persons, regardless of the regulation of their legal status, are full participants in the road traffic, provide services for transportation of passengers and goods,



mzd.rzd.ru/api/media/resources/281633

therefore, they should also be subject to the requirements for them to undergo medical examinations, including pre-trip ones. According to Art. 2 of the Federal Law «On Road Safety», a vehicle driver is a person driving a vehicle who can drive a vehicle for personal purposes or as an employee or an individual entrepreneur. If the requirement to undergo mandatory medical examinations applies to individual entrepreneurs in case that they independently drive vehicles carrying out transportation in accordance with Art. 23 of this law, then these requirements do not apply to self-employed persons, or persons who have entered into a civil law contract with a platform that provides services for organisation of transport services, which is a gap in legal regulation today, which negatively affects transport security [18].

CONCLUSIONS

The current legal regulation of medical examinations of employees involved in movement of vehicles is currently characterised, first, by a large number of by-laws, secondly, by the lack of uniform rules in the context of various modes of transport, thirdly, by the presence of outdated norms, and, finally, by impossibility of spreading it to new, «platform» workers. The foregoing gives grounds to make an assumption about the need for a comprehensive analysis, revision and unification of the norms of legal regulation of the medical examination of this category of employees.

Accepting the objective reality of the widespread introduction of digital technologies, one should consider the advisability of conducting medical examinations, primarily pre-trip / post-trip ones, using remote

programs. To do this, it seems necessary, first of all, to change the indicators and psycho-traumatic factors, revealing of which is the purpose of medical examinations, since the indicators and psycho-traumatic factors developed to date can only be determined through personal contact with a doctor. Secondly, it is necessary to eliminate conflicts in the legislation that allow remote examinations only as repeated consultations with the attending physician.

In addition, today there is no special legal regulation of the procedure for passing a medical examination by employees of sea and river transport crew members: there is no list of professions and positions of employees directly related to traffic and traffic control, there is no provision for pre-trip/post-trip medical examination, and there is also no procedure for passing medical examinations, taking into account the specifics of sea and river transport. It seems that the legal regulation of this issue should be uniform in the context of all modes of transport and should be carried out by legal means of labour legislation.

The legal regulation of platform employment by means of civil law does not take into account the needs of society for a safe environment, since the obligations established by labour legislation to undergo medical examinations apply only to drivers who are in an employment relationship or who operate as individual entrepreneurs.

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Editorial note. The topic highlighted in the article is of significant importance and should be certainly considered in the context of transportation safety. The problems summarised in the conclusions, in our opinion, merit special research and discussion

because of their complexity, the need for further evaluation of feasibility, reasonable and rational limits of the unification of approach of organisation of medical examination of transport employees.