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EFFICIENCY OF PUBLIC ADMINISTRATION BY THE PROCESSES OF PREVENTING OF THE FIRES ON THE OBJECTS OF DIFFERENT FORMS OF OWNERSHIP

Abstract. The effectiveness of public administration of the fire preventive procedures at the objects of various forms of ownership in Ukraine has been analyzed in the article. In particular, based on the analysis of the statistics from the various viewpoints, it has been found out that the current system of public administration of the processes concerning the prevention of fires at controlled objects is not able to provide an adequate level of fire safety. It is emphasized that the current system has lost its effectiveness and it is not able to prevent the occurrence of unpredictable risks at the objects of various

forms of ownership. It has been proved that the main focus on the implementation of the public administration for the fire prevention processes at the objects of different ownership must be concentrated on the development of such system which will be able to conform independently to the changes of the complicated conditions of the controlled objects in the long run. It has been proposed for the immediate changes to the current situation that has formed, in order to reduce the risk of fire occurrence and emergencies at the objects of various ownership to change the existing fire safety system which is based on the inspections at the enterprises, organizations and institutions namely controlled objects for more efficient system that is able to conform itself to the changing circumstances, multilevel, with the mechanisms to promote and stimulate the very objects of management to implement the necessary measures to render impossible the occurrence of unpredictable risk of fires and emergencies.

Keywords: public administration, fire safety, implementation of preventive measures, unpredictable risks, management system.

ЕФЕКТИВНІСТЬ ДЕРЖАВНОГО УПРАВЛІННЯ ПРОЦЕСАМИ ЗАПОБІГАННЯ ПОЖЕЖАМ НА ОБ'ЄКТАХ РІЗНИХ ФОРМ ВЛАСНОСТІ

Анотація. У статті проаналізовано ефективність державного управління процесами щодо запобігання пожежам на об'єктах різних форм власності в Україні, зокрема, на основі аналізу статистичних даних під різними кутами зору з'ясовано, що існуюча система державного управління процесами щодо запобігання пожежам на підконтрольних об'єктах не здатна забезпечити належного рівня пожежної безпеки. Наголошено, що ця система втратила свою ефективність і не здатна запобігати виникненню непередбачуваних ризиків на об'єктах різних форм власності. Доведено, що головна увага при здійсненні державного управління процесами запобігання пожежам на об'єктах різних форм власності має бути сконцентрована на розробленні такої системи, котра у довгостроковій перспективі буде здатна самостійно пристосовуватися до зміни умов складності керованих об'єктів. Запропоновано для негайного зрушення ситуації, що склалася, в напрямі зменшення ризику виникнення пожеж та надзвичайних ситуацій на об'єктах різних форм власності внесення змін до існуючої системи забезпечення пожежної безпеки, котра заснована на проведенні перевірок на підприємствах, в організаціях, закладах, тобто підконтрольних об'єктах, на більш ефективну систему, таку яка буде спроможна сама пристосовуватися до обставин, що змінюються, багаторівневу, із механізмами заохочення та стимуляції самих об'єктів управління до виконання необхідних заходів, які унеможливлюють настання непередбачуваного ризику виникнення пожеж і надзвичайних ситуацій.

Ключові слова: державне управління, пожежна безпека, здійснення превентивних заходів, непередбачувані ризики, система управління.

ЭФФЕКТИВНОСТЬ ГОСУДАРСТВЕННОГО УПРАВЛЕНИЯ ПРОЦЕССАМИ ПРЕДОТВРАЩЕНИЯ ПОЖАРОВ НА ОБЪЕКТАХ РАЗЛИЧНЫХ ФОРМ СОБСТВЕННОСТИ

Аннотация. В статье проанализирована эффективность государственного управления процессами предотвращения пожаров на объектах различных форм собственности в Украине, в частности, на основе анализа статистических данных под разными углами зрения, выяснено, что действующая система государственного управления процессами, по предотвращению пожаров на подконтрольных объектах не способна обеспечить должного уровня их пожарной безопасности. Отмечено, что действующая система потеряла свою эффективность и не способна предотвращать возникновение непредвиденных рисков на объектах различных форм собственности. Доказано, что главное внимание при осуществлении государственного управления процессами предотвращения пожаров на объектах различных форм собственности должна быть сконцентрирована на разработке такой системы, которая в долгосрочной перспективе будет способна самостоятельно приспосабливаться к изменению условий сложности управляемых объектов. Предложено для немедленного сдвиг ситуации в направлении уменьшения риска возникновения пожаров и чрезвычайных ситуаций на объектах различных форм собственности внесение изменения в существующую систему обеспечения пожарной безопасности, которая основана на проведении проверок на предприятиях, в организациях, учреждениях, то есть подконтрольных объектах, на более эффективную систему, такая которая способна сама приспосабливаться к обстоятельствам, которые изменяются, многоуровневую, с механизмами поощрения и стимуляции самих объектов управления к выполнению необходимых мероприятий, которые делают невозможным наступления непредвиденных рисков возникновения пожаров и чрезвычайных ситуаций.

Ключевые слова: государственное управление, пожарная безопасность, осуществление превентивных мероприятий, непредвиденные риски, система управления.

Target setting. In the recent years in Ukraine, one of the major problems in the sphere of fire safety is the state of fire protection of the objects with the occupancy, including markets, kindergartens and schools, hospitals, religious buildings and constructions, resorts and recreation facilities, cultural and entertainment establishments, hotels and hostels, where the measures to ensure the fire safety are almost not carried out because of the limited funding.

The analysis of fires at the objects of different ownership where the state supervision bodies in the sphere of fire and technogenic safety implement the prevention measures shows that the fire at the enterprises, organizations, institutions annually cause significant

material damage to their owners, i. e. entrepreneurs.

Thus, in 2016, the direct losses from the fires at these objects have made up 394 mln 603 thousand UAH (–27,8 % to the numbers of 2015) and they make up 24,3 % of the total sum of the direct damage; the indirect losses have made up 620 million 083 thousand UAH (–46,9 % to the numbers of 2015) or 17,5 % of the total sum of the indirect losses. The one fire at the enterprises, organizations, institutions make up 211,1 thousand UAH of the direct losses, while the average index on one fire on all objects is 21,9 thousand UAH, i. e. more in 9,6 times [1, p. 17].

Consequently, the process management for ensuring fire safety which is archaic today and the funding do not cover the real needs and do not to encourage for high-quality and effective work of fire brigades. Therefore, today, the research in the field of fire risk management and the improvement of government policy in the sphere of fire safety in Ukraine is topical.

Analysis of recent research and publications. The issues of public administration of the national security in general and ensuring fire safety, in particular, has been covered by such scholars as I. M. Abdurahimov, V. M. Andriyenko V. V. Byehun, I. N. Naumenko, N. N. Brushlynskyi, E. P. Buravlyov, Y. Hluhovenko, V. B. Korobka, R. V. Klymas, E. A. Klepka, I. P. Krynychna, S. A. Lupanov, A. V. Mikhailov, G. P. Sytnik, T. M. Skorobagatko, S. V. Sokolov, I. A. Kharchenko, A. P. Yakimenko, M. V. Sitsynska, N. R. Nyzhnyk, V. A. Kostenko, V. A. Lipkan, Danylyshyn, V. V. Durdynets [2–18]. However, the introduction of the new forms and methods of the government administration of the fire safety system concerning implementation of the preventive measures to prevent fires are not fully disclosed.

Therefore, in our opinion, it is necessary to elaborate on the issues, gaps and contradictions that have emerged in the system of public administration of the processes on ensuring the fire safety at the enterprises, organizations, institutions and those predictable and unpredictable risks and threats that exist both on the central, and regional and local level that carry out the state supervision in the field of technogenic and fire safety.

The purpose of the article is to implement the system analysis of the public administration in the field of fire safety and contemplate the set of measures for the implementation of the effective actions in the system of prevention, warning, fire prevention at the enterprises, organizations and institutions.

The statement of basic materials. The DSNS of Ukraine is a central body of the executive power which activity is directed and coordinated by the Cabinet of Ministers of Ukraine through the Minister of the Interior and who implements the state policy in the field of civil protection, population protection and territories from emergency situations and prevention of their emergence, the elimination of the consequences of the emergencies, rescue, firefighting, fire and technogenic safety, activity of emergency services and also hydrometeorological activity [19, p. 1].

The prevention and elimination of fires are within the competence of

State Emergency Service of Ukraine (hereinafter — DSNS Ukraine) established according to the Decree of the President of Ukraine of 24 December 2012 #726 "On some measures on the optimization of the system of the central bodies of the executive power" [20].

According to the Article 66 of the Code of Civil Defense of Ukraine (hereinafter — CCDU), the central executive body that carries out the state supervision in the field of technogenic and fire safety, i. e. DSNS of Ukraine, carries out the state supervision (control) by implementation of the scheduled and unscheduled inspections in accordance with the law" [21, p. 4]. The number of such inspections in some recent years (it will be shown below in Table. 2) has reached the astronomical value of nearly half a million a year. In the contrary, the effectiveness of such number of inspections is too low comparing with the achieved results concerning the reduction of fires in enterprises, organizations, institutions.

In this regard, we consider the nature of the public administration in the field of fire safety and the operating system of prevention, warning and the prevention of fires as for the implementation of the evaluation of its effectiveness and handling to improve the government administration on processes of fire prevention at the objects of different ownership.

Thus, the issue of public administration of ensuring the fire safety in Ukraine according to the research conducted by V. Andrienko [3] is not new and it has been for a long time in one or other form. The fuzzy display of this issue is due to that fact that state policy in the sphere of fire safety, from the times of the former USSR was being implemented centrally within different sectors of the economy, it was oriented for the long term perspective and it was provided with necessary financial and material and technical resources that was due to the state ownership of the single regulatory-legal basis [3, p. 45]. According to his definition of "fire safety, it is a combination of the settled public relations by the regulations aimed on creating such internal and external conditions of the existence of any object or person that exclude the unpredictable risk of fire emergence and development, and the prevention of possible impact of fire hazards on people, tangibles and the environment, also the measures are introduced previously that will help to extinguish fires" [3, p. 60].

In its turn, it is necessary to consider these social relationships that provide the unacceptable risk of fire emergence and the development of fires at the enterprises, organizations, institutions and the essence of public administration of this process.

DSNS of Ukraine organizes and carries out the state supervision (control) over compliance with laws and other legal acts on technogenic and fire safety, civil defense by the ministries and other central executive authorities, Council of Ministers of the Autonomous Republic of Crimea, local state administrations and other state bodies and local municipality, business entities [21, p. 4, p. 39].

Using the statistics on the number of the inspections carried out by the state supervision in the sphere of tech-

nogenic and fire safety[1] in 2011–2016 [22, 23] and the data on the number of fires and their consequences obtained from the annual "Analysis of array of fire cards accounting (POG_STAT)" for the same period of 2011–2016 [1, 24]. Let us make a comprehensive systematic analysis of the impact of the number of inspections therefore the measures to prevent fires on their amount, losses of fire (direct[2] and indirect[3]) and the number of dead in them.

Therefore, for the period being reviewed, the number of fires at the enterprises, organizations, institutions, except 2014, when their number reached the maximum value for the last 5 years, had a certain constancy. The Table 1 shows the data on fires at the enterprises, organizations, institutions and also direct and indirect losses from the fires at them in comparison with the appropriate losses of all fires that occur every year in Ukraine.

Table 1

The data on the number of fires, damage and loss of life in 2011–2016

Years	Number of fires in enterprises	Direct losses at the enterprisesthousand UAH	% to the total amount of direct damage from fires in Ukraine	Indirect damages from fires at the enterprise Thousand UAH	% to the total amount of indirect damages from fires in Ukraine	The number of dead people in fires at the controlled objects, people
1	2	3	4	5	6	7
2011	2162	364983	45,5	475122	25,6	67
2012	2169	335149	39,1	635081	25,2	45
2013	2015	232716	32,7	519008	23,2	29
2014	2528	508426	33,7	3622803	58	34
2015	2168	544568	37,4	1104813	26,2	28
2016	2211	394603	24,3	620083	46,9	30

As we can see from the table, the minimum value of the number of fires per year is in 2013 — 2015, while the maximum value of fires was recorded in 2014 on the level 2528. But such number of fires at the enterprises, organizations, institutions, which prevention is carried out by the exercise state supervision in the sphere of fire and technogenic safety (hereinafter — the controlled objects[4]) in 2014 that is not typical, as according to experts'

[1] The number of the inspected objects, checked by the State Supervision authorities in the sphere of fire and technogenic safety in 2011 were calculated from data of per cent decrease in 2012 relating the same period of 2011 [23, p. 7, 18–19].

[2] The direct losses from fires are estimated in the monetary value, destroyed and / or damaged due to the direct impact of fire hazards [25, p. 3].

[3] The indirect losses from the fires are estimated in the monetary value of the expenses on extinguishing of the fire (the cost of extinguishing agents, fuels and lubricants, etc.), the elimination of the consequences (including socio-economic and environmental losses), including the reconstruction of the object; the interruption of work, changing the movement timetable of the vehicles, etc. [25, p. 3].

[4] Hereinafter the terms coincide with those ones that are applied in the National Report on the State of the technogenic and natural security in 2014 [20, p. 30].

estimation from SESU over the past 10 years, there was the stable tendency of the annual reduction of the number of fires and its increase in their number was recorded only twice, in particular in 2014 at once on one third [26, p. 53] which was affected in particular by the "fighting in the area of anti-terrorist operation in the eastern Ukraine" [27, p. 32].

Therefore the sharp increase of the number of fires in 2014 may not be referred only to the problems of public administration in the sphere of fire safety, namely the implementation of preventive measures to reduce the risk of fire occurrence by conducting the inspections of fire-prevention and effectiveness of the systems for the unspecified operations [28, p.153].

The major interest in this case is the percentage ratio of the increase or decrease in the number of inspections at the controlled objects and respectively the increase or decrease in the number of fires at them. The histogram clearly shows that even an increase of 99,97 % inspections in 2013 comparing with 2012 did not give the expected result of the certain great reduction in the number of fires at the controlled objects which number fell to only 7,1 % (Fig. 2).

Similarly, there is a significant decrease in the number of inspections, on 46,03 % in 2012, at the same time the

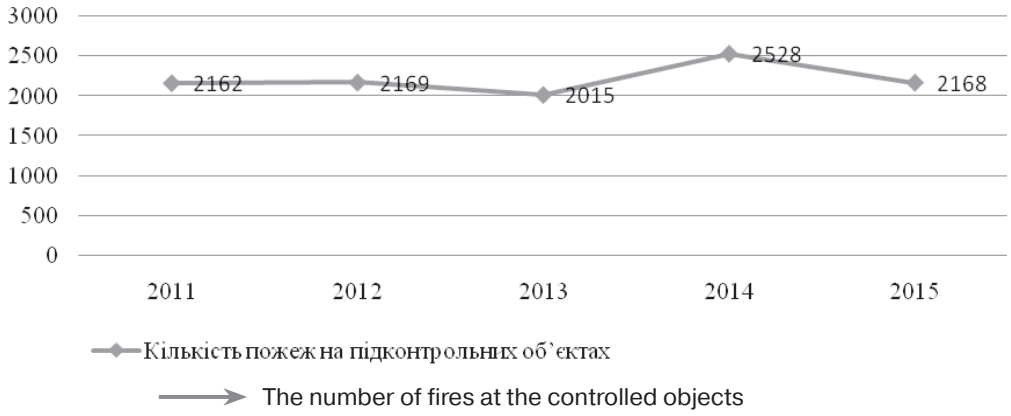


Fig. 1. **The dynamics of fires at the controlled objects in 2011–2016**

technogenic state of the enterprises, organizations and institutions.

Now let us consider the ratio of the number of the inspections of carried out by the bodies of the state supervision in the sphere of fire and technogenic safety inspections at the controlled objects and their relation to the number of fires. Therefore we will assess of the number of fires at these objects has increased only on 0,32 %.

The Table 2 shows the data on the number of fires at the controlled objects, the number of the inspections, and the relative increase / decrease of the relevant percentage calculated by the chain method (relatively to the previous year).

Fig. 2. **The percentage ratio of increase/decrease of inspections and fires in the years calculated by the chain method relatively to the previous year, for 2011–2015**

Table 2

The number of fires at the controlled objects and also carried out inspections of these objects, relative and absolute indexes of increase/decrease

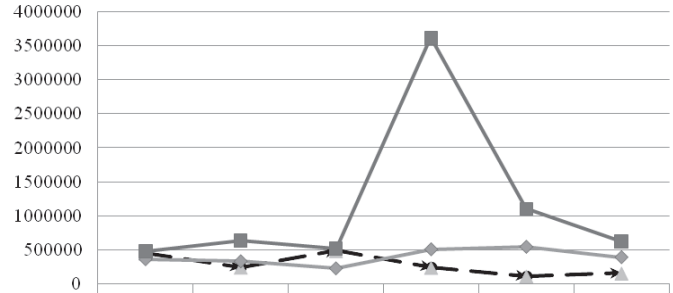
Years	Number of fires at the controlled objects	The relative increase / decrease in the number of fires comparing with the previous year,%	The relative increase / decrease of inspections comparing with the previous year,%	Absolute increase / decrease of fires at the controlled objects	Absolute increase / decrease of checks	The number of inspections carried out by the bodies of the state supervision in the sphere of technogenic and fire safety
1	2	3	4	5	6	7
2011	2162					451097
2012	2169	0,32 %	-46,03 %	7	-207621	243476
2013	2015	-7,10 %	99,97 %	-154	243391	486867
2014	2528	25,46 %	-50,26 %	513	-244697	242170
2015	2168	-14,24 %	-52,20 %	-360	-126410	115760
2016	2211	1,98	36,16	43	41861	157621

As we can see from the Table 2 the data that specify "The absolute increase/decrease of the inspections" (column 6) does not affect any way the "Absolute increase/decrease of fires at the controlled objects."

It must be said to the point that after analyzing the response of the State Regulatory Service of Ukraine [29], regarding the regulations which were used in the implementation of the state regulation in the sphere of control over the activities of the enterprises, institutions and organizations, we have concluded that there had never been a ban for the inspection dictated by any scientific, economic, "benefit-expense" calculations and it was carried out purely by political will of the administration to achieve the certain goals, or due to the influence of the external environmental factors.

In the Table 1 "The data relating the number of fires and losses from them in 2011–2015," we have already given the statistics on direct and indirect losses from fires at the controlled objects and their weight fractions in the national losses from fires. Let us consider these data from the perspective of system analysis comparing them with the number of the carried out inspections.

The Figure 3 in the form of graphs with the presented table below them shows the absolute indexes of the carried out inspections and direct and indirect losses in thousand UAH. This clearly shows that the decrease in the number of inspections (particularly in 2015) has little effect on the increase of direct losses at the controlled objects, especially on the indirect losses from these fires.



	2011 Y.	2012 Y.	2013 Y.	2014 Y.	2015 Y.	2016 Y.
Кількість проведених перевірок органами державного нагляду у сфері техногенної та пожежної безпеки	451097	243476	486867	242170	115760	157621
Прямі збитки від пожеж на підприємствах, тис.грн.	364983	335149	232716	508426	544568	394603
Побічні збитки від пожеж на підприємствах, тис.грн.	475122	635081	519008	3622803	1104813	620083

— The number of carried out inspections by the State Supervision Authorities in the sphere of the technogenic and fire safety

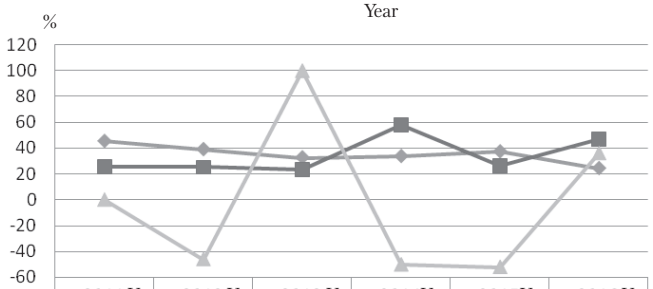
— Direct losses from the fires at the enterprises, thousand UAH

— Indirect losses from the fires at the enterprises, thousand UAH

Fig. 3. **The graph of the annual absolute indexes of the carried out inspections by the State Supervision Authorities in the sphere of the technogenic and fire safety, and direct and indirect losses from them, thousand UAH**

Even more clearly this situation may be seen by building the graph which shows the weight fractions of the direct and indirect losses in the percent to the general public relevant losses and also relative index percentage of the increase or decrease of the number of the inspections. Here we can see that all the fluctuations of the number of inspections (green line with the marker "triangle") absolutely have no influence on the weight fraction of the losses from the fires at objects in the general public relevant losses.

the controlled objects or the absolute amount of the direct and consequential damages from them or the weighing parts of these losses in general state losses from fires. Therefore, this indicates that the state management of the processes in the sphere of fire safety and current prevention operating system, the notification and the prevention of fires in present time has lost its effectiveness and it is not able to prevent the occurrence of the unforeseen risks on the objects of different ownership. It has happened due to its



	2011 Y.	2012 Y.	2013 Y.	2014Y.	2015Y.	2016 Y.
% до загальної суми прямих збитків від пожеж в Україні	45,5	39,1	32,7	33,7	37,4	24,3
% до загальної суми побічних збитків від пожеж в Україні	25,6	25,2	23,2	58	26,2	46,9
Відносне збільшення / зменшення перевірок порівняно з попереднім роком, %	0	-46,03	99,97	-50,26	-52,2	36,16

% to the total amount of the direct losses from the fires in Ukraine

% to the total amount of the indirect losses from the fires in Ukraine

relative increase/ decrease of the inspections comparing with the previous year, %

Fig. 4. **The relation of the weight shares of the direct and indirect losses in the percentage to the general public relevant losses, and also the relative index in the percent of the increase or decrease of the number of the inspections**

Conclusions: The analysis of the statistical indicators has enabled to come to the conclusion that a change in the number of the inspections conducted by the state supervision in the field of technogenic and fire safety do not affect either the number of fires on

imbalance and the loss of goal-setting, it began working "for itself", herewith its main goal to ensure a minimum risk of fire occurrence and other emergencies remained out of the vector of directionality of its action. For immediate development of the situation that

has formed in the direction to reduce the risk of fires and emergencies at the objects of different ownership, we propose to amend the existing fire safety system, which is based on inspections at the enterprises, organizations and institutions namely the controlled objects, for more efficient system which is able to conform to changing circumstances. It should be multilevel, with mechanisms to promote and stimulate the same facilities of management to implement the necessary measures that prevent the unpredictable risk of fire and the occurrence of the emergencies.

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