

The Impact of Changes in The Emergency Notification System on the Safety Management Process

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Abstract:

The article is the analysis of the organization of the emergency notification system in Poland in the context of changes that have occurred in it since the beginning of its operation. First, the structure of emergency notification centres and the role of the operator of emergency numbers are described. Next, the changes introduced by the amendment to the legal acts relating to the emergency notification system were assessed. The scope of changes and their impact on the process of receiving emergency notifications in emergency notification centres are presented.

Keywords: emergency number 112, emergency notification system, emergency notification, emergency number operator.

1. INTRODUCTION

In Poland, for several dozen years, there was an emergency notification model based on national emergency numbers - the so-called nines (997, 998, 999). It was a very popular and well-established method of summoning emergency responders. However, with Poland's accession to the European Union, it was necessary to create a new emergency number, the most important feature of which was to be

international¹. The way in which the pan-European number 112 would be implemented was free for any EU member state. Therefore, the Member States decided to use various models of adding a new number - leaving the existing national numbers and adding 112 to them, or building completely new emergency notification systems. In Poland, the necessity to introduce changes was treated as an opportunity to improve the national method of calling for aid, therefore it was decided to build a new emergency notification system.

The currently functioning emergency notification system has been built on the basis of emergency notification centres (ENC centres), which provide support for calls directed to emergency numbers. The system managing the so-called nines, which functioned years ago, was based on the territorial system, receiving notifications in poviats. Emergency notification centres have been established only in voivodship cities, additionally they employ emergency number operators - civilians employed in the structures of voivodship offices - and not officers of the Police, State Fire Service or medical dispatchers. The system was built in the operator model, which means that operators talk to a reporting person, collect the necessary information from him/her about the situation, and then forward the full report in electronic form to the appropriate rescue entity. It is the rescue entity - the one on duty or the dispatcher of a given service - that directs the equipment and people to the location. This is a completely different model of functioning, in which the communication chain between a reporting person and a dispatcher is additionally extended by a new element in the form of an emergency number operator.

The legal framework of the 112 emergency number is specified in the Act of 22 November 2013 on the emergency notification system. The system was fully developed in 2014, but it has only been operating in the target model since 2016. So, it is a new system in which changes and updates are made all the time. In 2016-2021, the system was developed mainly in technical terms. Over the years, however, the need to introduce changes also in the organization of the centres' work has been noticed. Therefore, 8 years after the adoption of the first act, the amendment entered into force - the act of 17 September 2020 amending the act on the emergency notification system. In legal terms, the new act details, develops and changes many important issues related to the operation of the emergency notification system.

¹ More about this in: Lis K., *Numer alarmowy 112 – zapewnienie bezpieczeństwa na poziomie europejskim*, "Zeszyty Naukowe Państwowej Wyższej Szkoły Zawodowej im. Witelona w Legnicy", 34 (2020)/1, pp. 101-103.

The subject of research in the article is the emergency notification system in the Republic of Poland. The aim of the article is a detailed description of the changes introduced in the amendment, an analysis of their impact on the operation of the emergency notification system, and an attempt to evaluate them after one year of validity. The article uses the method of analysis and comparison. The theoretical research was supplemented by an expert interview with an emergency number operator who works in the emergency call centre.

2. BASIC INFORMATION ON THE 112 EMERGENCY NUMBER

The possibility of describing the changes that have been introduced in the emergency notification system requires, in the first place, basic information on the functioning of the 112 emergency number in Poland. The emergency notification system is of particular importance. It is one of the elements ensuring the most important task, which is to protect human life and health, property, safety and the environment, by notifying appropriate rescue entities in order to eliminate the resulting threat. The issue of the emergency notification system has become an important element of state security. This is mainly due to the fact that the activity of each country is aimed at achieving the ability to develop and survive. These aspirations are primarily related to the state of security, as well as the constant striving to maintain it. Since security is a state, its achievement does not guarantee its continued duration. The security of countries consists of the following values: territorial integrity, political independence and the maintenance of sovereign power, internal order, as well as the survival of society and the quality of life of citizens². In order to preserve them, the state appoints institutions, units and entities that are related to each other, creating multidimensional structures dedicated to the implementation of tasks in the field of national security³.

The emergency notification system is built on the basis of emergency notification centres (ENC centres), which ensure uniform handling of emergency notifications sent to numbers 112, 997, 998 and 999⁴. The main opinion of the centres is to provide information on a given threat to appropriate rescue entities in order

² Ścibiorek Z., *Tożsamość nauk o bezpieczeństwie*, [in:] *Teoretyczne i metodologiczne podstawy problemów z zakresu bezpieczeństwa*, red. Ścibiorek Z., Zamiar Z., Wydawnictwo Adam Marszałek, Toruń 2016, p. 215.

³ Kitler W., *Organizacja bezpieczeństwa narodowego Rzeczypospolitej Polskiej. Aspekty ustrojowe, prawno-administracyjne i systemowe*, Wydawnictwo Adam Marszałek, Toruń 2018, p. 51.

⁴ Act of 22 November 2013 on the emergency notification system, *Journal of Laws* 2021, item 268, art. 3.

to direct the necessary forces and resources to the scene of the event. Emergency notification centres are connected with rescue entities through the tele-information network - the OST 112 Nationwide Tele-Information Network - which provides the possibility of sending information between the centre and organizational units of the State Fire Service, Police and State Medical Rescue⁵.

There are 17 emergency call centres in Poland (Map 1). The location of the centres is the same as the administrative division of Poland - there is one centre in each voivodeship city (the exception is Mazowieckie voivodeship, where the capital city of Warsaw has a separate centre, and the rest of the voivodeship is served by ENC in Radom)⁶. The construction and launching of all centres was completed in 2013.



Map 1. Location of emergency call centres in Poland

Source: own study

⁵ LisK., *Działalność centrum powiadomienia ratunkowego w sytuacjach kryzysowych*, [in:] *Bezpieczeństwo w obszarach przygranicznych*, t. II, red. Kaczmarczyk B., Wydawnictwo Adam Marszałek, Toruń 2017, p. 197.

⁶ Report on the operation of the emergency notification system in 2021, Ministry of the Interior and Administration, Warsaw 2022, p. 5.

The main task of the centres is to handle emergency notifications. 21,142,520 incoming calls were registered in all emergency call centres⁷ in 2021. However, it should be noted that emergency reports constituted approx. 37% of all reports. Therefore, about 36% of all connections were unjustified reports, i.e. reports that did not require the intervention of rescue entities. On the other hand, approx. 27% of all connections are cancelled reports, in which the caller disconnected before assigning the connection to the operator's position⁸.

The centres handle notifications 24 hours a day. It is worth mentioning that each of the centres is completely independent. Moreover, during the occurrence of a local failure of the ICT system or overload of one of the centres, the system operates on the basis of the principle of mutual substitutability of centres. This means that during a breakdown or overload of ENC, e.g. in Poznań, reports sent to emergency numbers 112 and 997 will be handled by another centre. More specifically - a reporting person, if the waiting time exceeds 30 seconds from the moment the call is made, will be automatically redirected to another centre and the request will be processed there. The replacement centre is selected by the system on the basis of an operator who remains waiting for a connection the longest. In many cases, a reporting person is unaware that when calling from the Greater Poland voivodeship, he/she is talking to an operator from another part of the country. Therefore, the issue of uniform handling of emergency notifications and strict adherence to the applicable procedures and guidelines is extremely important⁹.

The handling of emergency notifications to the numbers handled by the emergency notification system follows the following general procedure:

- receipt of an emergency notification from the reporting person;
- registering the alarm notification in the ICT system;
- obtaining information about:
 - about the type of event or threat,
 - about the place of the event or hazard
 - on the number of people injured or in a state of sudden health threat,
 - about the data of the reporting person, including name, surname and telephone number
 - about other significant circumstances of the event or threat enabling the rescue entities to take action;

⁷ Ibidem, p. 9.

⁸ Ibidem, pp. 13-14.

⁹ Lis K., *Działalność centrum powiadamiania...* op. cit., p. 197.

- confirmation to the reporting person of acceptance of the emergency notification;
- forwarding an emergency notification via the ICT system to the competent dispatcher or dispatchers of rescue entities or redirecting the telephone connection to a medical dispatcher in the event that assistance is required to a person in a state of emergency¹⁰.

During the operation of the emergency notification system in Poland, this system is constantly changing. A very important issue affecting the operation of emergency call centres, as well as the work of emergency number operators, is the fact that nowadays, apart from 112, there are also national emergency numbers - 997 and 998. The process of including the police number (997) in the notification system was carried out in 2018. Currently, all calls to 997 are automatically routed to emergency call centres and handled by operators, not police officers. The process of taking over the number of the State Fire Service (998) in 2021 was carried out in a similar way. Currently, the operator of emergency numbers is the only intermediary between the reporting person and the duty officer of the Police or the State Fire Service, who have adequate resources and resources at the scene of the incident. The last, separate national emergency number was the Ambulance Service (999).

The emergency notification system has also achieved the full scope of computerization of contacts between emergency notification centres and rescue entities. This means that all the collected data about a specific event is transferred via the ICT system to the Police, State Fire Service and the State Medical Rescue. The operator of emergency numbers, based on the specificity of the threat, decides whether to transfer the information to one service or to several at the same time.

3. THE SCOPE OF THE NEW ACT ON THE EMERGENCY NOTIFICATION SYSTEM

The Act of 17 September 2020 amending the act on the emergency notification system updates, changes and introduces many important issues in various areas of the emergency notification system. It should be noted that the vast majority of the changes introduced concern the organization and operation of emergency notification centres, and not the ICT system. The ICT system is developed throughout the

¹⁰ Regulation of the Minister of the Internal Affairs and Administration of 30 April 2021 on the organization and operation of the emergency notification centre and emergency notification handling procedures, pp. 3-4.

entire period of operation of the centres, while the introduction of changes in the structure of the centres, e.g. in the field of work of emergency number operators, must be supported by a legal basis.

The most important changes that significantly affect the operation of emergency call centres concern the operators of emergency numbers. First of all, the gradation of operator positions was introduced. The following division of positions in the centre has been introduced:

- operator of emergency numbers;
- senior operator of emergency numbers;
- coordinator,
- coordinator-trainer.

This solution allowed for the possibility of promoting the operators. Until now, the operator's career path has been very limited. In addition, the type of work performed, which is associated with constant exposure to stress, as well as relatively low earnings resulted in a very high rotation in the positions of operators. Along with the new act, long-serving operators were promoted to higher positions with higher salary gratification, which will positively affect the retention of experienced employees of the centres. Obviously, the act defines the requirements to be met by a person employed in particular positions in the centres.

„The operator of emergency numbers may be a person who:

1. has at least secondary or industry secondary education;
2. has a good command of at least one foreign language communicative;
3. completed the basic training for emergency number operators and passed the exam;
4. has a good command of the Polish language in speech and writing to the extent that it is possible to handle emergency notifications;
5. enjoys full public rights;
6. has not been convicted by a final judgment for an intentional crime or an intentional fiscal crime.”¹¹

The requirements change in line with the senior positions of a senior operator, coordinator or coordinator-trainer. The changes mainly concern years of experience and employee evaluation.

¹¹ Act of 22 November 2013 on the emergency notification system ..., art. 16.

The amendment to the act also significantly changes the method of training operators. From the beginning of the centres' operation, a person who was employed in a voivodship office as an emergency number operator had to undergo a five-day vocational training in order to be able to perform his duties. It should be noted that the fifth day of the training was entirely devoted to the theoretical and practical exams. After successfully passing both exams, the employee received a certificate of the operator of emergency numbers, which authorized him to handle emergency reports. It should be emphasized that this certificate was valid for a period of 3 years. This means that after this period, the hired operator could not handle emergency calls until he went to the refresher training. In reality, however, the name of the training, indicating that the operator expanded his skills during it, is incorrect, because the only difference between the basic training and subsequent recertifications was their duration (the refresher training was shortened to 3 days). Consequently, an operator with three years of experience had to re-validate his/her skills by passing the same exam as the newly hired employees. In addition, the operator of emergency numbers in the period between taking the exams, i.e. at three-year intervals, did not have any opportunities proposed by an employer for professional development and deepening his/her skills¹².

Exams repeated every three years while performing their duties caused great frustration among employees. Very often there were also situations in which experienced operators failed to take exams when proceeding with subsequent recertifications, which at the same time resulted in the loss of their job. On the basis of the above, it can be concluded how important was the change included in the amendment to the act on the emergency notification system, which establishes the certificate of emergency number operators for an indefinite period¹³.

The new training system distinguishes between basic and refresher training. Basic training for emergency number operators includes:

1. theoretical training, carried out with the use of ICT systems;
2. practical training, carried out at the National Centre for Monitoring of the Emergency Notification System (in Polish : KCMSPR)¹⁴.

¹² Lis K., *Determinanty zarządzania informacją w centrum powiadamiania ratunkowego*, "Zeszyty Naukowe Państwowej Wyższej Szkoły Zawodowej im. Witelona w Legnicy", 28 (2018)/3, p. 93.

¹³ Act of 22 November 2013 on the emergency notification system ..., art. 16.

¹⁴ Regulation of the Minister of the Interior and Administration of 10 May 2021 on training for employees of the emergency notification centre, p. 2.

The theoretical part exam is conducted in an electronic form at the emergency notification centre appropriate for the person taking the exam. The person who successfully passed the theoretical part of the exam and completed the practical part of the basic emergency number operator training can take the practical part of the exam. The practical part of the exam consists in performing by the examinee:

1. a simulation of the handling of six emergency notifications, including two notifications in the field of providing first aid on the telephone;
2. a simulation of the response to one emergency situation affecting the way of handling emergency notifications by the emergency notification centre¹⁵.

In contrast, in-service training includes compulsory and optional in-service training. The act imposes an obligation to undergo 4 refresher trainings over a period of 2 years¹⁶.

In the field of operator training, employee appraisal cards, competency assessment cards and self-assessment cards¹⁷ have also been introduced.

The changes in the training were positively assessed by the operator of emergency numbers during the expert interview. The expert has 8 years of experience as an operator, which means that he has passed the state exam three times. It indicates that both during the initial certification and during subsequent recertifications, the exam was the same.

Pursuant to the provisions of the act, the National Monitoring Centre of the Emergency Notification System was established within the structure of the Ministry of the Interior and Administration. Its main tasks include maintaining and developing the ICT system of emergency notification centres, maintaining the continuity of the emergency notification system, preparing and conducting training for ENC employees, supervising compliance with emergency notification handling procedures and international cooperation in the field of ENS¹⁸.

It should be emphasized that the operators of emergency numbers work under great pressure of time, they have to take decisions and actions that determine the

¹⁵ Loc. cit.

¹⁶ Act of 22 November 2013 on the Emergency Notification System ..., art. 16.

¹⁷ Regulation of the Minister of the Interior and Administration of 10 May 2021 on the scope of information included in the job evaluation card, competency evaluation card and self-evaluation card and the templates of these cards, p.2.

¹⁸ Act of 22 November 2013 on the Emergency Notification System ..., art. 18a.

life, health and safety of people. During the expert interview, the operator of emergency numbers pointed to an additional inconvenience resulting from the fact that emergency numbers are often made calls in matters not covered by the scope of ENC activities. These factors place an exceptional burden on people employed as an operator of emergency numbers, who are at high risk of developing symptoms similar to post-traumatic stress disorder - due to repeated supportive contact with people experiencing traumatic events. From the beginning of the functioning of the centres, each of them has 0.25 full-time psychologists. The experience from several years of ENC's operation shows that it is insufficient, especially in centres where a greater number of emergency number operators are employed. The role of psychologists is extremely important, among others due to the need to conduct internal training in the field of communication, group work, dealing with a person in a state of high emotional agitation, coping with stress. The psychologist is also responsible for taking preventive and therapeutic measures against the phenomenon of burnout. Therefore, it was established that in each emergency call centre there is 1 psychologist job, and in ENC, where the number of operators is higher than 100 - 2 psychologists.

The tasks of an ENC psychologist include in particular:

1. psychological support for employees of the emergency notification centre,
2. conducting trainings for candidates for emergency number operators,
3. conducting training courses for emergency number operators,
4. drawing up a quarterly evaluation card for the work of emergency number operators,
5. preparation of annual training plans,
6. participation in recruitment procedures,
7. support for the coordinator, coordinator - trainer and ENC manager in organizing the work of emergency number operators,
8. participation in exams conducted at the National Monitoring Centre of the Emergency Notification System.

Another introduced change is the inclusion of emergency number operators under the protection provided for public officials, referred to in the Penal Code. This is to prevent emergency reporting persons from insulting and threatening emergency number operators with impunity while handling emergency calls¹⁹. This solution should function from the moment the emergency notification system was created and the emergency number operator position was created, because operators

¹⁹ Act of 22 November 2013 on the emergency notification system ..., art. 8a.

have to deal with people who call emergency numbers and are overly demanding, aggressive, with matters that do not relate to saving lives²⁰.

The changes presented above, introduced by the amendment to the act on the emergency notification system in 2021, directly concern the operators of emergency numbers. They are really important, the more that the operator is the person directly responsible for emergency notification.

The last described change is the implementation and legal regulation of the Alarm 112 mobile application. It is an application that provides the possibility of using the emergency notification service primarily for deaf people. The Alarm112 mobile application enables the emergency notification to be sent to the Emergency Notification Centre by people who cannot make a voice call, in particular deaf and hearing-impaired people, in a situation of a threat to life, health, property, environment, safety and public order. Reporting is possible by selecting appropriate pictograms, specifying the type and place of the event, and by indicating the service whose help is necessary. The information provided in this way enables the operator of emergency numbers to forward the incident to rescue entities appropriate for the type and place of the incident.

4. CONCLUSIONS

The emergency notification system is changing all the time. When analysing the functioning of the system, it can be concluded that each year of activities various technical, organizational and technological changes were implemented. Therefore, the act on the emergency notification system also had to be adapted to the present shape of the system.

The analysis of the emergency notification system operating for several years indicated the need to carry out a number of organizational changes, in particular in the field of organization and operation of emergency notification centres, supervision over the work of emergency call operators, conducting basic and improvement training, certification process, ENC organizational structure and development paths professional employees of the centres.

²⁰ Dąbrowska M., Lis K., *Edukacja dla bezpieczeństwa a zgłoszenia alarmowe*, [in:] *Wielowymiarowość edukacji dla bezpieczeństwa*, red. Horyń W., Wydawnictwo Akademii Wojsk Lądowych, Wrocław 2018, pp. 51-52.

The changes introduced in this area allowed for more efficient operation of emergency call centres and made the work of emergency number operators easier. It should be noted that these factors also directly affect reporting persons - that is, Polish residents who dial the 112 emergency number, facing various threats, expect professional and soonest possible help.

REFERENCES

- [1] Dąbrowska M., Lis K., *Edukacja dla bezpieczeństwa a zgłoszenia alarmowe*, [in:] *Wielowymiarowość edukacji dla bezpieczeństwa*, red. Horyń W., Wydawnictwo Akademii Wojsk Lądowych, Wrocław 2018, pp. 47-53.
- [2] Kitler W., *Organizacja bezpieczeństwa narodowego Rzeczypospolitej Polskiej. Aspekty ustrojowe, prawno-administracyjne i systemowe*, Wydawnictwo Adam Marszałek, Toruń 2018.
- [3] Lis K., *Determinanty zarządzania informacją w centrum powiadamiania ratunkowego*, "Zeszyty Naukowe Państwowej Wyższej Szkoły Zawodowej im. Witelona w Legnicy", 28 (2018)/3, pp. 89-98.
- [4] Lis K., *Działalność centrum powiadamiania ratunkowego w sytuacjach kryzysowych*, [in:] *Bezpieczeństwo w obszarach przygranicznych*, t. II, red. Kaczmarczyk B., Wydawnictwo Adam Marszałek, Toruń 2017, pp. 189-212.
- [5] Lis K., *Numer alarmowy 112 – zapewnienie bezpieczeństwa na poziomie europejskim*, "Zeszyty Naukowe Państwowej Wyższej Szkoły Zawodowej im. Witelona w Legnicy", 34 (2020)/1, pp. 101-109.
- [6] Raport z funkcjonowania systemu powiadamiania ratunkowego w 2021 r., Ministerstwo Spraw Wewnętrznych i Administracji, Warszawa 2022 (Report on the operation of the emergency notification system in 2021, Ministry of the Interior and Administration, Warsaw 2022).
- [7] Rozporządzenie Ministra Spraw Wewnętrznych i Administracji z dnia 30 kwietnia 2021 r. w sprawie organizacji i sposobu funkcjonowania centrum powiadamiania ratunkowego oraz procedur obsługi zgłoszeń alarmowych (Regulation of the Minister of the Internal Affairs and Administration of 30 April 2021 on the organization and operation of the emergency notification centre and emergency notification handling procedures).
- [8] Rozporządzenie Ministra Spraw Wewnętrznych i Administracji z dnia 10 maja 2021 r. w sprawie szkoleń pracowników centrum powiadamiania ratunkowego (Regulation of the Minister of the Interior and Administration of 10 May 2021 on training for employees of the emergency notification centre).

- [9] Rozporządzenie Ministra Spraw Wewnętrznych i Administracji z dnia 10 maja 2021 r. w sprawie zakresu informacji zamieszczanych w karcie oceny pracy, karcie oceny kompetencji i karcie samooceny oraz wzorów tych kart (Regulation of the Minister of the Interior and Administration of 10 May 2021 on the scope of information included in the job evaluation card, competency evaluation card and self-evaluation card and the templates of these cards).
- [10] Ustawa z dnia 22 listopada 2013 r. o systemie powiadamiania ratunkowego, Dz.U. 2021, poz. 268 (Act of 22 November 2013 on the emergency notification system, Journal of Laws 2021, item 268).
- [11] Ścibiorek Z., *Tożsamość nauk o bezpieczeństwie*, [in:] *Teoretyczne i metodologiczne podstawy problemów z zakresu bezpieczeństwa*, red. Ścibiorek Z., Zamiar Z., Wydawnictwo Adam Marszałek, Toruń 2016, pp. 200-217.

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