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## The Role and Place of Volunteer Fire Service in the National Rescue and Firefighting System

### Rola i miejsce ochotniczych straży pożarnych w krajowym systemie ratowniczo-gaśniczym

### Роль и место добровольных пожарных дружин в Национальной Спасательно-Гасящей Системе

#### ABSTRAKT

**Cel:** Określenie roli i miejsca ochotniczych straży pożarnych w krajowym systemie ratowniczo-gaśniczym.

**Wprowadzenie:** W Polsce ratownictwo zorganizowane jest przede wszystkim w krajowym systemie ratowniczo-gaśniczym. Jest to system otwarty i ściśle współpracujący z otoczeniem. KSRG został powołany w roku 1995 w celu zaspokojenia potrzeb wynikających z naturalnych zachowań człowieka, w szczególności zapewnienia mu bezpieczeństwa. Granice, w których działa system, są bardzo elastyczne. Zapewnia on optymalizację czynności oraz efektywność i skuteczność użytych sił i środków do prowadzenia zarówno prostych, nieskomplikowanych działań, jak i specyficznych, dużych i długotrwałych akcji. Charakterystyczną cechą KSRG jest jego masowość, która wynika z włączenia do niego licznych jednostek ochotniczych straży pożarnych (OSP). Ich liczba wielokrotnie przekracza sumę jednostek ratowniczo-gaśniczych Państwowej Straży Pożarnej (PSP).

**Metodologia:** Analiza literaturowa w zakresie zadaniowo-funkcyjnym jednostek ochotniczych straży pożarnych w krajowym systemie ratowniczo-gaśniczym pod kątem przeciwdziałania coraz nowszym rodzajom zagrożeń powstałym wskutek gwałtownego rozwoju cywilizacyjnego.

**Wnioski:** Rozwiązania strukturalno-organizacyjne KSRG pozwalają na efektywne wykorzystanie potencjału organizacyjnego oraz zasobów technicznych i intelektualnych wszystkich podmiotów ratowniczych i współdziałających z nim jednostek. Dzięki temu system nie stanowi wyizolowanego składnika bezpieczeństwa powszechnego, lecz ważny czynnik, który reaguje na wszelkie zmiany i bardzo aktywnie działa z otoczeniem.

Autorka analizy proponuje podjęcie m.in. następujących działań: utrzymanie jednolitego systemu powiadamiania, koordynacji i wsparcia w celu zapewnienia skuteczności prowadzonych działań ratowniczych; dofinansowanie zakupów sprzętu dla jednostek OSP włączonych do KSRG (pod warunkiem posiadania przez jednostkę co najmniej 12 wyszkolonych ratowników spełniających kryteria udziału w bezpośrednich działaniach ratowniczych). Wdrożenie zawartych w artykule wniosków pozwoli zwiększyć efektywność działań ochotniczych straży pożarnych w krajowym systemie ratowniczo-gaśniczym. Realizacja proponowanych działań przyczyni się także do poprawy skuteczności działań ratowniczych, realizowanych przez OSP, które mogą znacznie szybciej dojechać na miejsce zdarzenia niż jednostki ratowniczo-gaśnicze PSP.

**Słowa kluczowe:** ochotnicza straż pożarna, krajowy system ratowniczo-gaśniczy, system selektywnego alarmowania

**Typ artykułu:** artykuł przeglądowy

#### ABSTRACT

**Aim:** Presenting the role and place of the Voluntary Fire Service in the National Rescue and Firefighting System

**Introduction:** In Poland, rescue is mainly organized in the National Rescue and Firefighting System. It is an open system, closely cooperating with the surroundings. It has operated since 1995 and it was created to meet the needs arising from natural human behavior and in particular to ensure people's safety. Limits within which the system functions are very flexible. It provides optimization of operations and effectiveness and efficiency of forces and means used to conduct simple, uncomplicated actions as well as specific, large and long-term actions. A distinctive feature of the national rescue and firefighting system is its mass character, and that results from including many units of the Volunteer Fire Service in this system. Their number exceeds multiple times the number of fire and rescue units of the State Fire Service (SFS).

**Methodology:** Analysis of literature within the scope of task-related and functional matters related to the National Rescue and Fire Fighting System in terms of newer types of threats being the result of the rapid development of civilization in the units of the Volunteer Fire Services.

**Conclusions:** Structural and organizational solutions of the National Rescue and Firefighting System allow efficient use of organizational, technical and intellectual potential of all rescue and cooperating entities, which leads to the fact that the system does not constitute an isolated component of public safety, but is an important factor responsive to any changes and efficiently cooperates with the surroundings.

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Maintaining a uniform system of notification, coordination and support to ensure the effectiveness of rescue operations, financing equipment purchases for individuals, included in the Voluntary Fire Service in the National Rescue and Firefighting System, conditioned by the possession of at least 12 trained rescuers meeting the criteria for participation in direct rescue operations, are some of the conclusions presented in the article. If the conclusions of the article are executed, the activities of the Volunteer Fire Service in the National Fire and Rescue System will be more efficient. Conclusions will be implemented to improve the effectiveness of rescue operations by the Voluntary Fire Service units that can reach a place of incident much faster than the Rescue and Firefighting units of the State Fire Service.

**Keywords:** Voluntary Fire Service, National Rescue and Firefighting System, system of selective alarm

**Type of article:** review article

## АННОТАЦИЯ

**Цель:** Показать роль и место Добровольных пожарных дружин в Национальной Спасательно-Гасящей Системе (KSRG).

**Введение:** В Польше почти вся служба спасения собрана в Национальной Спасательно-Гасящей Системе. Это открытая система, тесно взаимодействующая с другими субъектами. Она функционирует с 1995 года и была создана из-за необходимости решения ситуаций, возникающих как следствие поведения человека, но также для обеспечения его безопасности. Спектр заданий системы очень эластичен. Она обеспечивает оптимизацию операций, а также эффективность используемых сил и средств для проведения как простых, несложных действий, так и специфических, конкретных и долгосрочных. Характерной особенностью KSRG является ее массовый характер, который связан с присоединением к этой системе многих подразделений добровольных пожарных дружин (OSP). Их число во много раз превышает число подразделений Государственной Пожарной Службы (PSP).

**Методология:** Анализ литературы относительно задач и функций Национальной Спасательно-гасящей Системы с точки зрения предотвращения добровольными пожарными дружинами все новых угроз, появляющихся в результате быстрого развития цивилизации.

**Выводы:** Структурно-организационные решения KSRG позволяют эффективно использовать потенциалы организации, технических и интеллектуальных средств всех спасательных субъектов и учреждений взаимодействующих с ней. Это приводит к тому, что система не является изолированным компонентом общественной безопасности, но как важный фактор, реагирует на любые изменения и активно взаимодействует с окружающей средой.

Содержание единой системы оповещения, координации и поддержки для обеспечения эффективности спасательных работ, финансирование закупки оборудования для подразделений добровольных пожарных дружин, включённых в KSRG, у которых есть как минимум 12 обученных спасателей, отвечающих критериям для участия в прямых спасательных действиях – это некоторые из выводов, представленные в статье. Если данные выводы будут воплощены в жизнь, деятельность добровольных пожарных дружин в Национальной Спасательно-Гасящей Системе будет более эффективна. Реализация предложений размещённых в статье будет способствовать повышению эффективности спасательных работ добровольных пожарных дружин, которые смогут прибыть до места происшествия быстрее, чем аварийно-спасательные подразделения Государственной Пожарной Службы.

**Ключевые слова:** добровольная пожарная служба, государственная спасательно-гасящая система, система селективного оповещения  
**Вид статьи:** обзорная статья

## 1. Introduction

The National Rescue and Firefighting System (NRFS), organized by the National Fire Department, have begun to operate in Poland since 1995. It is one of the most important national security systems, in particular for public safety, understood as a process involving a range of measures aimed at ensuring the safety of the citizens, including protection of life and health, property and the environment [1]. The concept of the National Rescue and Firefighting System is understood as an integral part of the organization of internal security of the state, including prediction, identifying and combating fires, natural disasters or other local threats to save life, health, property or the environment. This system focuses on the protection of fire units, other services, inspections, guards, institutions and entities that voluntarily through a civil contract agreed to cooperate in rescue operations [2]. A distinctive feature of the NRFS is its mass character, and this is a result of including many units of the Volunteer Fire Service in this system. Their number is higher than the number of firefighting and rescue units of the State Fire Service. Therefore, we are faced with a situation where specialized elements are the core of the security system, but volunteer units which are ubiquitous throughout the country determine its effectiveness in the main, if not the most part. Hence, it is subjected to scientific reflection on the role and place of the Volunteer Fire Service in the National Rescue and Firefighting System. We should also look at the whole system through the prism of the existing legal and formal solutions, point out loopholes and organizational shortcomings in the hope of eliminating irregularities for the sake of national security.

## 2. The legal basis and genesis of the National Rescue and Firefighting System

In the last century, rapid development of civilization caused the emergence of new types of threats. This contributes to the formation of many factors including rapid technological and economic development, the disappearance of traditional boundaries and continually increasing range of globalization. Even the process of civilization and demographic population is becoming a threat factor.

In many countries, the existence of appropriate technical and organizational conditions allowed the creation of an evolutionary rescue system based on fire services units [3]. In Poland, however, the absence of these conditions provoked the creation of emergency services such as workplace fire departments, which were used to eliminate newly created threats. In the recent years, this situation has begun to change. This was the result of, among others, the requirements of international regulations concerning e.g. ports and airports. Many companies in those days did not want to keep rescue services, which also operated outside the workplace. Some institutions that are in a weak financial condition were forced to terminate this activity. Entities – often already privatized, ensured the safety of their own employees, but actions outside the workplace were indifferent to them. This caused disintegration of the rescue structures. Moreover, various principles regarding organization, equipment, training, command, communication systems in practice prevented cooperation of entities in a variety of large operations, which combined several types of rescue operations. The existing structure of the emergency services seemed to have more and more problems in effective

implementation of rescue operations. Systematically, disparity between preparation of emergency services and evolving threats increased. There were no coherent organizational and legal conditions throughout a wide emergency area, which was the cause of reorganization of the emergency system in the country. Besides, elimination of more than two hundred professional workplace fire departments in 1991-1993 forced these changes [3]. Part of the plants that survived, had to limit feasibility of fire and rescue operations by reducing employment and reducing equipment resources. Local authorities took over the supervision over voluntary fire brigades, which led to the absurd situation where the heads of municipalities and the mayors banned Volunteer Firefighter Units to leave the municipality. This solution disturbed the structure of operational functioning of the regional units which were mainly based on volunteer units [4]. Operational functioning of the company perimeter, primarily based just on volunteer units has been disturbed by this structure.

There is a need to create a system that will meet all threats; such a system is the National Fire and Rescue System.

Two laws were the basis for the creation of this system:

- the act on fire protection [5],
- the act on State Fire Service [6].

Difficulties in coordinating operations of many rescue services in Poland led to a situation where the authors of the act on fire protection and the State Fire Service expended the scope of operation of the fire brigades. They created an effective, unified rescue and firefighting system, which has become a key link in the system of internal security. The assumptions in the structures of the system, in addition to the units of the State Fire Service, must operate together with other units or volunteer fire protection units and fire services and field and company emergency services. Therefore, the State Fire Service has become a leading service organization of the system of rescue operations. The task of creating the National Rescue and Firefighting System to protect life, health, property or the environment through fighting fires and other natural disasters, technical, chemical, ecological and medical rescue has been assigned.

Immediately after the formation of SFS, work began which was to prepare implementing acts to the fire law. They included theoretical basis for NRFS. The legislator has provided a six-month transition period from the date of entry into force of the Act for the establishment of the State Fire Service. Legal acts concerning the determination of detailed rules for the organization of the National Rescue and Firefighting System and the conditions for the inclusion of fire protection in the National Rescue and Firefighting System were also published.

Coming back to the basic legal act, i.e. The Act of 24 August 1991 on the State Fire Service [6], that – in accordance with art. 127 of this Act – the Commander in Chief of the State Fire Service was required to organize the NRFS within three years from the date of its entry into force, that is, until 1 January 1995.

Regulation of 28 December 1994 (currently an archival act) defined detailed operational rules, the appointment procedure of fire protection and rescue teams, and their composition. According to this legislation the State Fire Service has been the main organizer of the National Rescue and Firefighting System. The system included necessary technical and human resources, their organization and management, funding and training. The base units of the system were the State Fire Service. The scope of participation in the system determined the contracts between the State Fire Service and entities supporting voluntary NRFS.

In 1995, in order to complete the tasks of the state in ensuring security of citizens, the National Rescue and Firefighting System was organized and implemented [7]. The system was created by:

- 499 fire and rescue units of district headquarters (municipal) of the National Fire Service,
- 5 fire and rescue units of the State Fire Service Schools,
- 1664 volunteer fire services,
- 5 fire brigade units,
- 12 hospitals (two hospitals in Warsaw and one in Cracow, Poznan, Lodz, Olsztyn, Katowice, Bialystok, Lublin, Szczecin, Wroclaw and Siemianowice Slaskie) [8].

Between 1996 and 1997 additional fire protection units, in particular units composed of volunteer fire brigades, were included in the system.

To ensure constant and high response efficiency to any threats once the country's administrative system has changes, the system was open to all rescue entities which were to conduct rescue operations, regardless of event type. It included services, inspections, rescue units and entities with the capacity suitable for preventing risk. Design of the system assumes that the basic tasks of rescue are fixed and adapted to the specificities of all kinds of events, including mass events or natural disasters when rescue forces and means are insufficient, and the organization of rescue operations needs to be modified in order to simplify operational procedures [9].

The National Rescue and Firefighting System have been developed to meet the needs arising from natural human behavior and in particular to ensure the safety of people. It aims to ensure optimization of operations and the effectiveness and efficiency of forces and means used both to conduct simple, uncomplicated actions as well as specific, large and long-term actions. High operational readiness and effectiveness of the rescue services system and efficient coordination of rescue operations are essential factors for safety.

Unfortunately, the limited budgetary resources of the Ministry of Internal Affairs and Administration were the cause for delay in the system being fully operational. The next stages of creating the NRFS are determined largely by funds allocated for this purpose. Before the Act on the State Fire Service came into force, rescue efforts at the scene were often carried out by emergency services in an uncoordinated manner [3]. The Act does not define in any way the organizational structure of the NRFS, only entrusting management of that same system to the Commander in Chief of the State Fire Service. In contrast, the Minister of Internal Affairs was obliged to issue appropriate regulations for the organization and functioning of the National Rescue and Firefighting System. The establishment of the State Fire Service and the creation of the NRFS obliged other entities to issue a series of implementing acts.

Since 1 October 1996, the functioning of the NRFS in a given province should be coordinated by the provincial governor supported by a team for fire protection and rescue, whereas over an area larger than one province this function is performed by the Head of the Civil Defence (since 8 October 1997) [10]. However, the Act on the State Fire Service [15] does not mention provincial governors or the Head of the National Civil Defence as participants and coordinators of the NRFS.

Planning the number and type of entities belonging to the National Rescue and Firefighting System is based on risk analysis carried out in the districts, provinces of the country by the commanders of the State Fire Service. The inclusion of fire protection units for the NRFS was done at the request of the relevant provincial commander of the State Fire Service. This takes place by agreement between a competent commander and an entity supporting this unit and also between this unit itself. Whereas the decision to include a given unit in the system is issued by the Commander in Chief of the SFS, based on the Code of Administrative Law [11]. The same Commander in Chief keeps registers of fire and rescue services within the system and, based on the material and financial plans annual-

ly, determines the amount of funds for the purpose of funding from the state budget units included in the system.

Launching NRFS improves the effectiveness of security and its citizens as well as foreigners residing in the country. The National Rescue and Firefighting System has a positive impact on the effectiveness of firefighting or other natural disasters, on technical, chemical, environmental and medical rescue.

To ensure the effectiveness of rescue operations, entities of the National Rescue and Firefighting System are formed in the operating circuits, i.e.: central – by the Commander in Chief of the State Fire Service in the country, and provincial – in the province by the appropriate provincial commander of the State Fire Service, which was established by the Ordinance of the SFS Commander dated 3 July 1996 on the organization and detailed scope of activities of operational reserves (unpublished). Due to the reform of the national political system – the Law of 24 July 1998 on the modification of certain laws defining the competence of public administration bodies [2] modified by article 2 point 4 of the Act on fire protection [5]. The term National Rescue and Firefighting System is understood as an integral part of internal security organizations, including, for the purpose of saving life, health, property and the environment, forecasting, identifying and combating fires, natural disasters or other local threats. This system focuses on fire protection units, other services, inspections, guards, institutions and entities voluntarily concluding civil-law agreements where they agree to cooperate in rescue operations. Also, due to the national reform of the political system, the Act dated 29 December 1998 on the change of certain acts due to implementing the national reform of the political system, organizational rules of the NRFS have changed. These rules provide that the minister responsible for internal affairs shall specify by regulation detailed organizational rules of the NRFS, particularly in the area of organization of the county, the state and the province, fighting fires and other natural disasters, technical, chemical, ecological and medical rescue, disposing to rescue operations and managing them, documenting events and the functioning of the NRFS, organizing operational reserves and command posts.

In 1999, the reform of public administration, in particular the creation of the county and identification of different tasks of the governor forced to modify the operation of the national rescue and firefighting system. Financial conditions did not allow the Commander in Chief of the SFS to organize a system within a forecasted scope with relevant technical preparation. Unfortunately, the state of organization of the system did not provide the security of citizens as may be specified by law. It is worth noting that the system has not been finally organized in 1999. According to the document “The steps of implementing the main elements of the national rescue and firefighting system”, developed in 1994 at the Headquarters of the State Fire Service, it was assumed that the target model of the system will be achieved by 31 December 2000.

The Minister of Internal Affairs and Administration executed statutory authorization imposed by the amendment of provisions of article 8 paragraph 4 on the State Fire Service, issuing the Regulation of 20 September 2000 on detailed rules for the equipment of the organizational units of the State Fire Service [12]. The same Minister in the draft of the regulation on detailed rules for the organization of National Rescue and Firefighting System [13] in the organization of the rescue system changed the rules of the development and updating of the emergency plans (Regulation entered into force on 3 March 2011). The organizational units of the State Fire Service created structures that enabled the organization to fulfill leadership roles and coordination in the field of rescue operations, however, in some command post technical preparation

in the field of communications systems was not complete. As mentioned above, in the provinces the coordination of the NRFS belongs to the governor. He/She should execute this task using provincial disaster management teams. In fact, the level of implementation of certain provisions under the laws and regulations proved to be varied. In the “Stages of implementation of the major elements of the National Rescue and Firefighting System” it was observed that in some provinces the teams were not sufficiently prepared to fulfill their tasks, in particular, have not developed conclusions and proposals for preventing the onset of emergencies, have not developed the concept of eliminating foreseeable threats in terms of financial, organizational and material matters. Even the equipment was far from the State Fire Service's equipment norms because the financial needs for creating the National Rescue and Firefighting System exceed the amounts received from the state budget.

### 3. Tasks of the National Rescue and Firefighting System

The National Rescue and Firefighting System have been developed to meet the needs resulting from natural human behavior and in particular to ensure the safety of people, because it is an open system closely cooperating with the surroundings.

- The National Rescue and Firefighting System provide:
- unity of command
- compatibility of activities and equipment during the actions;
- high operational readiness;
- efficiency of the system entities;
- subordination of various rescue interests for a common purpose;
- standardization of training and education;
- efficient coordination of rescue operations;
- uniformity and coherence of communication and information transfer.

### 4. Organizational structure of the National Rescue and Firefighting System

The National Rescue and Firefighting System is organized at three levels corresponding to the basic territorial division of the state:

- a) the countryside, which is the basic level of executive rescue operations in the municipalities area and the countryside,
- b) the province, as the level of support and coordination of rescue operations in the province,
- c) central, as the level of support and coordination of rescue operations in the countryside [14].

The system operates in two forms. The first is constant vigil and acute response, that is carrying out rescue operations using own forces and means of the county and municipalities. The second one consists of carrying out rescue operations requiring the use of manpower and resources from outside the countryside.

The level of support and coordination is activated from the provincial level, and during large complex rescue operations – from the central level. Disposition of the system for rescue operations and alerting interacting entities happens through the following:

- a) district (municipal) command posts that interact with duty posts of the local government of the mayors, the governors, the city presidents, as well as integration with alarm points of other entities and services in the province: selective calling of the OSP, alerting the emergency med-

ical services, the police and non-governmental organizations,

- b) regional rescue coordination of the National Fire Service, interacting with crisis management centers, provincial governors and administration in the province,
- c) National Rescue Coordination Centre and Civil Protection, operating within the framework of the crisis management system in the country.

By 31 December 2015 the National Rescue and Firefighting System consisted of:

- 496 + 5 FSF commands of the State Fire Services,
- 4194 VFS commands of the Voluntary Fire Services.

The System is supported based on service agreements, on inspections and guards, such as among others: the Police, Border Guard, State Inspectorate for Environmental Protection, Institute of Meteorology and Water Management, National Atomic Energy Agency, Mine Rescue Stations, Maritime Search and Rescue, Air Ambulance Rescue as well as non-governmental organizations: Mountain Rescue, Water Rescue, Tatra Voluntary Rescue, Polish Aero Club, Polish Scouts Association, Polish Red Cross, Polish Mountaineering Association. In the provinces, with a minimum of two firefighting companies, the central battalions were created by the operating circuit. Currently, they meet the criterion of 8 provinces, on the basis of which the forces created battalions in Wrocław, Torun, Łódź, Cracow, Warsaw, Gdansk, Katowice, Poznań.

Central units of the operating circuit meet the standards both in terms of organizational structure, as well as technical equipment, which are set out in the revised command on the organization of the central operating circuit of the Rescue and Firefighting System which was signed by the Commander in Chief of the SFS on 18 January 2010. The changes are designed to fit the organizational structures of the central subunits of the operating circuit and the current needs, flexibility and disposability of individual subunits.

On 12 February 2013 changes to the guidelines for the organization of emergency medical services in the National Rescue and Firefighting became effective. They were outlined by the National Centre for Coordination of Rescue and Civil Protection and the Office of Education Headquarters of the State Fire Service.

In the new guidelines there are provisions regarding additions to the SFS R1 rescue set. The sets should consist of the following equipment:

- laryngeal mask,
- laryngeal tube,
- capnometer or disposable CO<sub>2</sub> indicator,
- a set of pediatric immobilization,
- pre-cooling gels,
- ACS valvular dressings,
- tactical stasis (clamps),
- aspirator for aspirating venom,
- safety goggles,
- saline,
- bag for amputated body parts,
- nitrile gloves,
- TRIAGE segregation set.

Many valuable changes in the emergency procedures have been introduced. Psychological support procedure and a unified system called START for segregating victims have been added, which should be considered reasonable.

In Poland from time to time there are accidents involving a larger number of victims, which show that the system is "leaky".

Starting from dispatchers being trained by firefighters, paramedics and doctors working in emergency departments, who are not specialists in emergency and disaster medicine. Therefore, mandatory training should be introduced dedi-

cated to all emergency services in the districts. Cases from Poland show that there is a large number of volunteers participating in these events. A good solution would be to organize computer simulation training courses not only for senior commanders, but especially for rescuers, drivers, dispatchers and doctors who are directly involved in dealing with the consequences of mass and multiple accidents. More attention should be paid to the number of hours in Qualified First Aid training.

## 5. The scope of activities and entities in the National Rescue and Firefighting System

The National Rescue and Firefighting System were created to meet one of the basic human needs, which is to ensure the safety of people. The limits within which the system operates are highly flexible, so it reacts to any changes and highly interacts with the surroundings, not being an isolated component of public safety, but its important factor. The National Rescue and Firefighting System aims to protect life, health, property or the environment by:

- fighting fires or other natural disasters;
- technical rescue,
- chemical rescue,
- ecological rescue,
- medical rescue,
- cooperation with the emergency medical services [15].

The basic assumption in the construction of the emergency system was to create a coherent and consistent system that binds different rescue groups. For the NRFS to perform the task properly, a wider form of cooperation is necessary between the operating unit and the other fire protection units of the Volunteer Fire Service, of various departments of the Ministry of Internal Affairs such as the Police, Border Guard and other rescue groups, institutions and enterprises. In the NRFS, Volunteer Fire Services operate in the workplace as well as in the field.

The list of rescue entities which concluded agreements with the State Fire Service on cooperation is very long, and, what is important, it is still growing. It should be noted that the Volunteer Fire Services Association of the Republic of Poland is consistently at the top of that list. It brings individual volunteer firefighters together who previously showed that they are a very reliable and natural ally, without which it would be impossible to carry out efficient rescue. These volunteer firefighters partner with professional firefighters to carry out the most complex and dangerous rescue tasks.

The Voluntary Fire Services are well organized and trained, well equipped. It is a large social group in number bringing together nearly 16,311 units of the Voluntary Fire Services (in 2014), which include approximately 700,000 volunteer firefighters where 470,000 are active members directly involved in the rescue operations [16]. Nowadays fires are approximately 30% of all emergency calls, while the rest are disasters, accidents, emergencies and natural disasters where individuals rely on the Voluntary Fire Service. This is made possible by incorporating the most mobile, well-equipped and trained NRFS units, performing system tasks together with the units of the State Fire Service. Despite modest financial subsidies, considerable gaps in equipment, large operational requirements, they effectively perform assigned rescue tasks [17].

According to the assumptions of the Voluntary Fire Service the units have execute rescue operations in the field of:

- firefighting (by NRFS – internal fires that develop and spread in enclosed spaces (inside buildings, of equipment, facilities) and external fires, which run outside a building or in open space (forests, crops, open landfill, means of transportation, etc.),

- technical rescue, in particular road rescue (individuals included in the NRFS);
  - the provision of qualified first aid – an essential requirement for individuals with NRFS, resulting from the Act of 8 September 2006 on the State Emergency Medical Services;
  - minimizing the risks associated with natural disasters [18].
- There are also plans to extend the activities to include:
- participation in search and rescue groups, in particular the use of dogs;
  - water rescue [18].

## 6. Prospects for the development Rescue and Firefighting System

The plans of NRFS development, by incorporating Voluntary Fire Service units (VFS) are divided into quantitative and qualitative plans. A quantitative plan means that VFS units included in the NRFS should be arranged in such a manner as for the rescue unit to arrive at the scene at a time not exceeding 15 minutes of receiving notification of an event. It is expected that by the end of 2014, 263 VFS units will be included in the NRFS. The qualitative plan refers to the following tasks in the system: primary which includes specific standards for all units of the system in relation to the rescue operations, and specialized – for some of the VFS units specializing in water rescue, search and rescue etc. VFS units which are incorporated with the NRFS, must be equipped with the following:

- self-contained breathing apparatus – at least 4 sets;;
- hydraulic rescue tools – at least 1 set;
- power generator at least 2.2 kW – at least 1;
- pump for contaminated water with a capacity of at least 1000 l / min – at least 1;
- radio communication including selective calling;
- a set of SFS R1 – at least 1 [8].

VFS unit can be incorporated to the NRFS under the condition that it fulfills the criteria mentioned above within a three-year period.

- In addition, a VFS unit must fulfill the following conditions in order to become a part of the NRFS:
- 12 firefighters trained in accordance with the set standard;
- at least 1 firefighting vehicle with a medium technical module;
- system of selective alarm;
- 4 self-contained breathing apparatus;
- at least one set of R1 Rescue Kit [18].

The Voluntary Fire Service as a part of the NRFS also carries out additional tasks associated with civil protection:

- lighting and supply emergency maintenance of power equipment;
- mass decontamination at the primary level in case of contamination;
- implementation of tasks related to the activities in infected areas;
- performing multiple tasks in situations of humanitarian risks to the population during blizzards, droughts, floods, etc.;
- logistical and security implementation during natural disasters, e.g. providing potable water, food, creating conditions for the survival of people evacuated from affected areas;
- performing other tasks which may help in protecting the population and which are commissioned by local authorities [18].

## 7. Summary

The effectiveness of the rescue system depends largely on the legislation in force, existing in a given area. Therefore there is a need for continuous improvement and its adaptation to the solutions found in member states of the European Union. There is also a desire to create a universal National Rescue System (NRS) and its further integration with the European rescue. As it can be concluded from the assumptions, this project should be carried out by the evolution introduced in the NRFS. The new common system should be open to all rescue entities (professional, voluntary and commercial), regardless of the ownership structure, their size and organization level of a company. However, it must adapt to the rules that are created and provided for emergency procedures and equipment standards. The general rescue system, besides the units already operating within the NRFS, should include for instance Rescue, Maritime Search and Rescue Service, forces assigned to health care units, rescue forces assigned to armed forces, non-governmental organizations and social rescue organizations, volunteers, businesses whose activity can be effectively used to conduct rescue operations [19].

The experience of recent years has shown that the development of the NRFS should take into account the possibility of implementing tasks in the area of civil defense such as: crisis management, rescue operations on a large scale, such as removing the effects of floods and snowstorms and other contemporary threats. Projects related to the development of the NRFS should include:

- improving the system to alert emergency services and other entities and disposing forces and means for rescue operations;
- improving and unifying: detection, alarm and population warning systems;
- implementing emergency medical services;
- improving coordination of evacuation rules;
- implementing new forms of organization and the functioning of the State Fire Service, e.g. by creating new specialist rescue groups and permanent and temporary branches of rescue units or combined SFS and SFS-VFS units;
- improving cooperation between international rescue coordination posts and the emergency services of neighboring countries in the field of mutual assistance in fire and rescue operations, and predicting and warning against dangers [19].

Should we create a single integrated rescue system? The development of civilization, climate change, industrialization and urbanization, and therefore the increase in the amount of threats, their diversity, and size means that sooner or later such a system will be created, not only in big cities, as it currently operates in some major European and American metropolis. It does not matter whether Poland (as it was with SFS) introduces a national integrated system or whether it will benefit from the experience of other precursors in this field, but effective bringing of comprehensive, highly qualified and, at the same time, specialized assistance needs work on the construction of such an integrated system.

Such a system should have a unitary organizational and administrative structure, and be financed by a single financial source (the state budget could be the best). It must have unitary procedures to dispose forces and resources and to coordinate rescue operations during major rescue and firefighting operations. Moreover, it should have a common communications network, a shared application supporting and coordinating the availability of units, or at least there should be a set of unitary standards for the exchange (format, protocol for data transmission, etc.). The integration should be based primarily

on the construction of a uniform, state-rescue system, based on one basic pattern: a regulation covering the whole field of rescue. How to ensure the safety of citizens and the environment, if not by creating solid legal basis? It could even act as a Rescue Code. There is also a need to create a catalogue of definitions and procedures associated with rescue. This may be the right moment, for instance, to create a clearly defined law to be applied by public authorities and institutions and organizations during rescue operations. The organizer of the system should be obliged to cooperate with those conducting the rescue operations and exchange information with the involved units (update data regarding appropriate resources). There is a need to determine the standards and procedures for rescue and other activities that have an impact on the quality of rescue operations [20]. Specific procedures for creating, recording, and functioning of civil society organizations working hand in hand with volunteer rescue units should also be defined. Finally, there are the tools for enforcing safety standards. The organizer of the system must have legal ability to enforce certain activities of the entity or local government or other institution or organization.

Without a clear and wise law and without reasonable institutions operating on its basis, any serious talk about an integrated rescue system will be, at the most, a catalog of wishful thinking [20].

## 8. Conclusions

Scientific reflection on the role and place of the Volunteer Fire Service (VFS) in the National Rescue and Firefighting System (NRFS) and wider national rescue security system leads to the following conclusions:

- funding of equipment for the Volunteer Fire Service (VFS) units included in the NRFS should be conditioned by having at least 12 trained rescuers who fulfill the criteria of directly participating in rescue operations, which would act as an incentive system,
- it should be agreed with the General Board of the Polish Association of Volunteer Fire Services and implemented for use,
- proposed standard regarding equipment for the firefighters and the rescuer of the VFS,
- all guard stations of the VFS units included in the NRFS should be equipped with selective alarm systems or other individual notification systems,
- in the case of established indicators on the number of the VFS units in the NRFS, over a given area, the unit should not be excluded when not fulfilling the set criteria to be replaced by another entity that meets the requirements,
- cooperation with the local governments should be the aim in order to achieve a condition where all VFS units included in the NRFS should have the required number of rescuers fulfilling the set criteria being direct participation in rescue operations,
- a unified system of notification, coordination and support which ensures the effectiveness of rescue operations should be maintained,
- adoption of the proposed standard of operational readiness of the VFS with the NRFS, including an increase in the number of units in the system due to the duration of the operating procedures. This requires a change in the General Headquarters of the State Fire Service (procedure P-23, meaning reviewing an application to the Chief Commander of the SFS on the inclusion of individual VFS units to the NRFS;
- evolution of the NRFS is recommended towards the national rescue system and integration of other systems and entities performing rescue operations, eg.: Emergency

Medical Services, Aviation, Ambulance Service, Mountain Volunteer Ambulance Service. The development of civilization and new threats, and thus new tasks for the rescue services are a necessity. Therefore it would be advisable to prepare, and then adopt an act in the National Rescue System [21].

If these proposals are implemented, the activity of the Volunteer Fire Service in the National Rescue and Firefighting System (NRFS) will be more efficient. In addition, the proposals will be implemented to improve the effectiveness of rescue operations by the Volunteer Fire Service (VFS) units which could reach the place of incident faster than SFS Firefighting and Rescue Unit.

Today, NRFS is the guarantor of security in emergency situations at every level. Local authorities, as well as the government have an impact on its functioning by identifying tasks and controlling their execution, but also by the management of the system at a certain level when life, health, property or the environment are at risk. Therefore, the entities of the NRFS (VFS and the State Fire Service – SFS) have become the main tool for the governor, as well as the mayor to carry out tasks not only in the field of fire protection, but also widely understood rescue [22]. Structural and organizational solutions of the NRFS allow for efficient use of potential organizational, technical and intellectual solutions for all rescue and cooperating entities, which leads to the fact that the system does not constitute an isolated component of public safety, but is an important factor responsive to any changes and interacting to a large extent with the surroundings. Therefore, the limits within the system are very flexible, and this is manifested in the readiness to fulfill the tasks at all times and under all conditions. NRFS philosophy, adopted and implemented in practice, entails close cooperation with all entities which have the equipment, personnel or database which are useful in conducting rescue operations. Constantly changing nature and frequency of occurrence of hazards require the intervention of emergency services which have a direct impact on the provision of public safety. This is one of the fundamental tasks of each element of the system – forcing organizers to seek new organizational solutions to optimize the use of all the actors involved in emergencies [23].

## Abbreviations

VFS – Volunteer Fire Service

NRFS – National Firefighting and Rescue System

SFS – State Fire Service

## Literature

- [1] Kitler W., *Bezpieczeństwo Narodowe RP. Podstawowe kategorie. Uwarunkowania. System*, Wydawnictwo AON, Warszawa 2011.
- [2] Ustawa z dnia 24 lipca 1998 r. o zmianie niektórych ustaw określających kompetencje organów administracji publicznej (Dz. U. Nr 106, poz. 668).
- [3] Skoczylas J., *Prawo ratownicze*, Wydawnictwo LexisNexis, Warszawa 2007.
- [4] Schroeder M., Płotica M., Żuber J., *Krajowy system ratowniczo-gaśniczy w systemie bezpieczeństwa państwa. Czy jesteśmy bezpieczni?*, Wydawnictwo KGPSK KCKR, Warszawa 1994.
- [5] Ustawa 24 sierpnia 1991 r. o ochronie przeciwpożarowej (Dz. U. Nr 81, poz. 35 art.14)
- [6] Ustawa 24 sierpnia 1991 r. o ochronie przeciwpożarowej (Dz. U. Nr 81, poz. 35 art.14)
- [7] Bielicki P., Wawrzynowicz H., *Osoby z dysfunkcjami a postępowanie ratownicze w czasie pożaru: Organizacja systemu ratowniczego*, Szkoła Aspirantów PSP w Poznaniu, Poznań 2004.
- [8] Szczurek T., *Od deskrypcji do antycypacji wykorzystania potencjału militarnego w kształtowaniu bezpieczeństwa nowoczesnych*

- wspólnot państwowych wobec rozwoju zagrożeń niemilitarnych, Wojskowa Akademia Techniczna, Warszawa 2012.
- [9] Oficjalna strona internetowa KG PSP <http://www.straz.gov.pl/page/index.php?str=944>, [dostęp: 07.11.2014].
- [10] Ustawa 24 sierpnia 1991 r. o ochronie przeciwpożarowej (Dz. U. Nr 81, poz. 35 art.14)
- [11] Kodeks Postępowania Administracyjnego z 1960r. (Dz. U. 30, poz. 168 art. 104).
- [12] Rozporządzenie z dnia 20 września 2000 r. w sprawie szczegółowych zasad wyposażenia jednostek organizacyjnych Państwowej Straży Pożarnej (Dz. U. Nr 93, poz. 1035).
- [13] Rozporządzenie z dnia 18 lutego 2011 r. w sprawie szczegółowych zasad organizacji Krajowego Systemu Ratowniczo-Gaśniczego (Dz. U. Nr 46, poz. 239).
- [14] Leśniakiewicz W., *Państwowa Straż Pożarna a Krajowy System Ratowniczo-Gaśniczy*, w: *Ratownictwo w Polsce lata 1990-2010*, J. Konieczny (red.), Garmond Oficyna Wydawnicza, Warszawa-Poznań-Inowrocław 2010.
- [15] Ustawa z dnia 24 sierpnia 1991r. o ochronie przeciwpożarowej (Dz. U. 81, poz. 351).
- [16] Oficjalna strona internetowa ZOSP RP, <http://www.zosprp.pl> [dostęp: 07.11.2014].
- [17] OSP – ważny posterunek służby publicznej, „Przegląd Pożarniczy” 2001, nr 1, 5.
- [18] Szczurek T., *Krajowy System Ratowniczo-Gaśniczy. Ogólnokrajowe i resortowe systemy zarządzania kryzysowego*, Wojskowa Akademia Techniczna, Warszawa 2013 (wykład- nieopublikowany).
- [19] Sienkiewicz-Małyjurek K., F. Krynojewski, *Zarządzanie kryzysowe w administracji publicznej*, Wyd. Difin S.A., Warszawa 2010.
- [20] Leszczyński T., *System Ratownictwa – nowe spojrzenie*, BiTP Vol. 40 Issue 2, 2008.
- [21] Analiza potencjału ratowniczego Ochotniczych Straży Pożarnych włączonych do KSRG, Warszawa 2011 [dok. elektr.] [http://www.kppsp-belchatow.pl/pliki/osp\\_szkolenia/analiza\\_osp\\_ksrp.pdf](http://www.kppsp-belchatow.pl/pliki/osp_szkolenia/analiza_osp_ksrp.pdf)[dostęp: 07.12.2014].
- [22] Kogut B., *Krajowy system ratowniczo-gaśniczy – podstawy prawne i organizacja funkcjonowania*, w: *Ochrona przeciwpożarowa a bezpieczeństwo państwa*, J. Zboina, B. Wiśniewski (red.), CNBOP-PIB, Józefów 2014.
- [23] Popis J., *Krajowy system ratowniczo-gaśniczy w systemie bezpieczeństwa wewnętrznego państwa*, w: *Ochrona przeciwpożarowa a bezpieczeństwo państwa*, J. Zboina, B. Wiśniewski (red.), CNBOP-PIB, Józefów 2014.

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