A COMPARATIVE ANALYSIS ON TRAINING SYSTEMS OF QUALIFIED WORKERS OF RESCUE UNITS

ABSTRACT

The article describes the peculiarities of professional training of firefighters in the Republic of Lithuania, Hungary, France, the USA and the United Kingdom. The conditions of professional activity of personnel of operational subdivisions of rescue units, components of vocational training and postgraduate education of personnel of the units of the Operational and Rescue Service of Civil Protection; the system of departmental education of the civil protection sphere of Ukraine is characterized. It includes an educational management body, higher education institutions, vocational schools, educational and training centers and a civil defense lyceum. It is noted that the modern professional education in the system of the State Emergency Service of Ukraine provides for the training of a fundamentally new skilled worker who is not only executing orders of the manager during the service, extinguishing fires and eliminating the consequences of emergencies, but is, in his own competence, organizer and professional performer. In the professional training of skilled workers of rescue units there is a primary professional training (vocational training) and training directly in the unit (at the workplace). Training in primary vocational training is carried out in vocational and technical educational institutions of civil protection (educational centers, training centers and the Higher Vocational School of Lviv State University of Life Safety (Vinnitsa), practical and special physical training for the qualitative training of working personnel in the structural units of the Operative Rescue Service of Civil Protection there is a system of learning - self and service training. The modern system of training of skilled workers for structural units of Operational and Rescue Service of Ukraine is characterized by the lack of scientific research, science and technology, innovative teaching methods that are prospects for further scientific studies.

Keywords: primary vocational training, skilled workers, civil protection operational and rescue service, operational calculation, independent training, official training.

АНОТАЦІЯ

У статті описано особливості професійної підготовки пожежних-рятувальників у Литовській Республіці, Угорщині, Франції, США та Великобританії. Схарактеризовано умови професійної діяльності особового складу оперативних
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Розрахунки рятувальних підрозділів, компоненти професійної підготовки та післядипломної освіти особового складу підрозділів Оперативно-рятувальної служби цивільного захисту. До складу відомчої освіти сфери цивільного захисту входять орган управління освітою, заклади вищої освіти, професійно-технічні навчальні заклади, навчально-методичні центри та ліцеї цивільного захисту. Зазначено, що сучасна професійна освіта в системі Державної служби України з надзвичайних ситуацій передбачає підготовку принципово нового працівника кваліфікованої праці, який є не тільки виконавцем наказів керівника під час служби, гасіння пожеж та ліквідації наслідків надзвичайних ситуацій, а сам, відповідно своєї компетенції, є її організатором і виконавцем-професіоналом. В фаховій підготовці кваліфікованих робітників рятувальних підрозділів має місце первинна професійна підготовка (професійно-технічне навчання) та навчання безпосередньо в підрозділі (на робочому місці). Навчання в першому професійному підготовці (професійно-технічного навчання) здійснюється в професійно-технічних навчальних закладах цивільного захисту (навчальних пунктах, навчальних центрах та Вищому професійному училищі Львівського державного університету безпеки життєдіяльності (м. Вінниця). Навчання складається з професійно-теоретичної, професійно-практичної та спеціальної фізичної підготовки. Для якісної підготовки робітничих кадрів в структурних підрозділах Оперативно-рятувальної служби цивільного захисту існує система навчання – самостійна та службова підготовка. Сучасна система професійної підготовки кваліфікованих робітників для структурних підрозділів Оперативно-рятувальної служби цивільного захисту України характеризується відсутністю результатів наукових досліджень, науково-технічних досягнень, інноваційних методик навчання, що є перспективою подальших наукових розвідок.

Ключові слова: первинна професійна підготовка, професійно-технічне навчання, кваліфіковані робітники, оперативно-рятувальна служба цивільного захисту, оперативний розрахунок, самостійна підготовка, службова підготовка.

INTRODUCTION

Over the last decade, there has been a trend towards an increase in the annual number of fires and emergencies in the territory of Ukraine and of the world in general (New legislation to strengthen European policy on disaster management. European Commission), which proves the utmost importance of the emergency response operations, their readiness to perform their assigned tasks.

When extinguishing fires, eliminating emergencies and their consequences, the activity of specialists of the units of the Operational and Rescue Service of Civil Protection of Ukraine is connected with negative factors, dangerous for their life and health, the need to perform professional tasks in the conditions of neuro-mental, emotional stress. This requires mobilization of both physical and psychophysiological reserves of the body.

The professional activity of rescuers at the present stage is characterized by an increase in the scope of their tasks, an extension of the range of work performed and the improvement of methods of their implementation, due to professional mobility of specialists and improving the quality of work performed.

In this regard, the fulfillment of new increased tasks requires an objective consideration of the higher qualification requirements for the skilled workers of the structural units of Operational and Rescue Service of Civil Protection of Ukraine, who are directly involved in the implementation of operative actions: extinguishing fires, elimination of emergencies and their consequences, carrying out other urgent works,
rendering assistance to the affected population, etc. To ensure that a large amount of work is performed during fire fighting, emergency management and their consequences in different territories and facilities, it is necessary to improve the quality of professional training of the personnel of the operational subdivisions of the rescue units.

**THE AIM OF THE STUDY**
To characterize the peculiarities of the training of workers for the rescue units of the Republic of Lithuania, Hungary, France, USA and Ukraine.

**THEORETICAL FRAMEWORK AND RESEARCH METHODS**
Contemporary professional education in the system of the State Emergency Service of Ukraine envisages the preparation of a fundamentally new skilled worker who is not only executing orders of the manager during the service, extinguishing fires and eliminating the consequences of emergencies, but himself, according to his competence, is an organizer and a professional executor of tasks.

Despite the considerable amount of scientific research on the issues of professional training of personnel for rescue units, the issue of training skilled workers (personnel of operational subdivisions) in the units of the Civil Rescue Service of Ukraine is not well understood.


**RESULTS**
The training system for the Lithuanian Fire and Rescue Service consists of two levels.

The first level of training - training of ordinary members of the fire and rescue service. The learning process can be divided into two main parts: basic training, advanced training and retraining.

Basic training should be conducted taking into account the structure of the Lithuanian Fire and Rescue Service and the future workplace of the cadet. The following training programs have been developed for specialist training:

- fire-rescuer of the state fire-rescue service;
- specialist of the Center of the single help phone 112;
- fire-rescuer of the municipal fire-rescue service;
- assistant firefighter-rescuer (volunteer).

All basic training courses are held at the School of Fire Rescuers of the Department of Fire Protection and Rescue at the Ministry of Internal Affairs of the Republic of Lithuania.

After completing the basic training course, further training and acquisition of new specialties depends on the profile of the fire and rescue unit. Typically, retraining and refresher training courses are organized at the Fire Rescue School and other educational institutions and are conducted for firefighters by the Federal Fire and Rescue Service.
The second level of training is the preparation of officers for the Lithuanian Fire and Rescue Service. In 1992, the Vilnius Technical University named after Gadiminas opened the Chair of Occupational and Fire Safety. A new discipline for this university - Fire Safety (bachelor’s studios) was created. Since 2002 the program of Master of Engineering has been approved.

In Hungary, the training of firefighters is carried out at three levels: initial / basic training (first degree), secondary (second degree) and higher education (third degree). The personnel of operational subdivisions of rescue units undergo professional initial (basic) training courses. The total amount of teaching time is 650 hours, 75 percent of which is practical training on sites, training grounds, etc.

In France, firefighting units are organized on a professional basis in major cities and volunteers are employed in provinces. There is also the principle of mixed manning of units - in fire and rescue units volunteers together with professional firefighters rescuers serve in duty guards. All volunteers receive 260-hour vocational training, take an exam, and then sign contracts. The professional duties of volunteers, in addition to extinguishing fires, include the elimination of emergencies and their consequences.

The peculiarity of the organization of training of employees of fire and rescue services in the USA is conditioned by the form of the state system. The United States is a federal country and each state of it has a great deal of autonomy. Each state has its own constitution and legislation, including regulating the organization and activities of the fire department. Thus, in the United States there are state fire protection service and fire protection service of every state. That is the reason of diversity in the organization of training firefighters. Each state has the right to organize the training and refresher training of local fire and rescue personnel at their discretion.

In all states, there is a minimum educational qualification for admission to the US municipal fire department. However, in most states, firefighting candidates require additional training. For example, in Florida, a candidate in a municipal fire department must have a diploma of a Firefighter and Emergency Nursing. Each state has its own specialist training system. Trainings are delivered by instructors directly in fire departments or in training centers created and funded by the local budget.

The principle of fire protection in the UK is the same as in the US. Professional fire protection and voluntary fire protection are also operating in the UK. Professional firefighting is staffed by full-time employees with cash support. Volunteer Fire Departments are formed from citizens who have special training, they have a service free of charge. The Fire and Rescue Service often uses volunteers to ensure the safety of the population and to check the fire safety of the living quarters. Large cities are served by a professional fire department. In cities with small populations, suburbs, and rural areas, fire units are formed by part-time employees who work part-time in their free time and are ready to eliminate fires 120 hours a week. Volunteer fire units are formed in remote and inaccessible areas, mainly in small islands. Purely voluntary fire brigades are only available in Scotland and Northern Ireland. The Peterborough Volunteer Fire Department is known not only in England but also beyond.

Most US and UK firefighters have college and university diplomas where they study for a future profession for 2 or 4 years. The UK Fire College is considered one of the world’s largest training firefighting centers, offering a range of courses from ordinary firefighters and officers, to garrison and department commanders. Future firefighters are trained in extinguishing fires on ships, planes, helicopters, power stations, cars, freight and high-speed trains, as well as industrial buildings (Carroll, 2009).
Those wishing to become a fireman pass the entrance tests, only candidates over the age of 18 who have a document of complete general secondary education with positive marks in mathematics, physics and other exact sciences can be admitted. They must have a valid driver's license, be a U.S. citizen or have a residence permit in that country. It is desirable to have additional skills and a sufficient level of physical fitness.

Candidates undergo compulsory training, called Fire Service Training, which includes theory and practice. In the course of theory teaching, medicine, the fundamentals of architecture and construction are studied, with particular emphasis on the study of ventilation and the resistance of materials. In the course of the practical exercises, the endurance in assessing the situation and the speed of making adequate decisions are checked. Candidates are invited to work, sign a contract and become a full-fledged firefighter after having successfully passed an interview, a background check on criminal inclinations, all psychological, written and physical tests (Lautner, 1998; Squeglia, 2012; Shchablov, 2015).

As we can see, the structure of rescue training in European countries is somewhat similar to the structure of rescue training in our country. The training of skilled workers and the training of officers can be traced. Compared to Ukraine, there are significant differences in rescue training in the United States.

One of the important tasks for ensuring the constant readiness of the units of the Operational and Rescue Service of the Civil Protection of Ukraine for their intended actions is the appropriate level of professional readiness of their working personnel.

The Law of Ukraine «On Higher Education» states that professional training is the formation of a system of professional knowledge and skills, as well as professionally important and socially significant personality traits, the acquisition of experience in solving typical professional problems, the formation of a professional personality orientation (About higher education, 1556–VII, 2014).

Vocational training is an organized and purposeful process of mastering the members of the ordinary and commanding bodies of civil protection bodies and units with the knowledge and skills necessary for the fulfillment of professional tasks (On approval of the Instruction on the organization of vocational training and postgraduate education of persons of the rank and command staff of the bodies and divisions of civil protection № 444, 2009).

The professional training of the personnel of the structural divisions of the Operational and Rescue Service of Civil Protection of Ukraine includes (On approval of the Instruction on the organization of vocational training and postgraduate education of persons of the rank and command staff of the bodies and divisions of civil protection № 444, 2009):

– initial professional training of persons on the educational and qualification level “skilled worker”;
– preparation of persons for the educational and professional degree “professional junior bachelor”;
– training of specialists with higher education in Bachelor’s and Master’s degrees;
– training of scientific and scientific and pedagogical personnel of higher qualification.

Postgraduate education of the personnel of the structural units of the Operational and Rescue Service of Civil Protection of Ukraine includes retraining, advanced training and specialization.

Vocational training and postgraduate education are carried out in the departmental education system, which consists of educational management bodies within the central apparatus of the State Emergency Service of Ukraine, higher education institutions,
vocational schools; educational and methodological centers; the Lyceum of Civil Protection. On the basis of the analysis of the governing documents (Code of Civil Protection № 5403-V, 2012; On approval of the Order of organization of official training of persons of ordinary and command staff of civil protection service № 511, 2017; On approval of the Instruction on the organization of vocational training and postgraduate education of persons of the rank and command staff of the bodies and divisions of civil protection № 444, 2009) and empirical data in the structure of the professional training of the personnel of the guards of the structural units of Operational and Rescue Service of Civil Protection of Ukraine, we have distinguished two components:

– initial professional training (vocational training) of staff in departmental vocational schools;
– training of personnel directly in the unit (at the place of service).

Training in primary vocational training is carried out in vocational and technical educational institutions of civil protection (educational centers, training centers and the Higher Vocational School of Lviv State University of Life Safety (Vinnitsa). The training consists of vocational-theoretical, vocational-practical and special physical training.

In order to develop professional knowledge, skills and abilities of personnel, to maintain a high level of operational readiness of duty guards, there is a continuous, year-round system of training - independent and professional training in the structural units of Civil Protection Service of Ukraine.

Self study (On approval of the Instruction on the organization of vocational training and postgraduate education of persons of the rank and command staff of the bodies and divisions of civil protection № 444, 2009) is a continuous process of independent work of the personnel in acquiring, deepening and updating the knowledge, skills and abilities necessary for the successful fulfillment of their functional duties, defined by the job descriptions in certain positions.

Self-study includes:

– study of legislative and regulatory documents;
– constant acquaintance with new legal, economic, special and other literature in accordance with the line of activity;
– study of provisions, orders, instructions and other normative documents on operation of firefighting, emergency-rescue, special equipment, engineering-technical equipment, and rules of safety when using them;
– preparation for classes, tests, exams in the course of initial vocational training in the working professions, training, retraining, specialization and advanced training;
– preparation for meetings of management staff, training courses, exercises, trainings, inspections, etc;
– practical work with special technical means, communication and transport means;
– study the area of possible emergency response and operational and tactical features of the most important and potentially dangerous objects;
– constant maintenance and improvement of physical fitness.

Service training is a system of activities aimed at securing, updating and acquiring the necessary knowledge, skills, and professional qualities with the staff to ensure successful completion of assigned tasks (On approval of the Order of organization of official training of persons of ordinary and command staff of civil protection service № 511, 2017).

The main tasks of service training are: to increase the level of knowledge, skills, and professional qualities of the personnel in order to perform the
tasks on purpose, taking into account the peculiarities and profile of the service; improvement of the management of bodies and divisions of civil protection of personnel management skills; study of legal acts regulating the activity of civil protection bodies and divisions.

Types of service training (On approval of the Order of organization of official training of persons of ordinary and command staff of civil protection service № 511, 2017):

- functional training – a set of measures aimed at acquiring and improving the personnel of knowledge, skills in the field of regulatory legal support of official activities necessary for the successful completion of professional tasks and job descriptions in certain positions;
- profile preparation – a set of measures aimed at acquiring and improving the ability of practical using of theoretical knowledge regarding the formation of preparedness for intended actions;
- tactical preparation – a set of measures aimed at acquiring and improving the skills of practical application of theoretical knowledge of emergency rescue and other urgent works, extinguishing fires, demining and clearing territories from explosive objects, managing forces and means during emergency situations and dangerous events;
- general physical training – a set of measures aimed at general physical improvement of personnel to ensure the successful completion of tasks on purpose;
- special physical training – a set of measures aimed at the formation and improvement of physical qualities and skills of the personnel required for professional activity;
- premedical assistance training – a set of measures aimed at acquiring and improving the knowledge of the personnel on the procedure for providing domestic assistance in the event of fires, emergencies and dangerous events;
- humanitarian training – a set of activities aimed at forming a sense of patriotism, love for Ukraine and its people, culture, traditions and spiritual values, dignity, honor, national consciousness, allegiance to the Oath;
- psychological training – a set of measures aimed at the formation, development and maintenance of psychological readiness of staff to professional activity, the fulfillment of tasks on purpose in difficult and extreme conditions.

Additional training sessions are scheduled and conducted during the calendar year at a time specified.

Additional classes include:

- working out of the standards for special physical training in the academic period in excess of the training plan established in the calendar plan, as well as in the summer period of the year;
- independent training of officials who are authorized to perform the duties of fire extinguisher independently;
- independent training of substitute radio telephonists;
- development of documents of rapid response (operational plans and fire fighting cards);
- night test practical exercises with the development of tactical tasks;
- analysis of operative actions for extinguishing fires and elimination of consequences of emergencies and dangerous events.

CONCLUSIONS

The article analyzes the professional training of personnel for the rescue units of the Republic of Lithuania, Hungary, France, the USA and Ukraine. On the basis of the analysis of the governing documents, empirical data in the structure of the professional training of the personnel of the guards of the structural units of the Operational and Rescue
Service of Civil Protection of Ukraine, we have distinguished two components: primary vocational training and training of the personnel directly in the unit. In order to develop the professional knowledge, skills and abilities of the personnel, to maintain a high level of operational readiness of duty guards, a continuous, year-round system of training – independent and professional training, exists in the structural units of Operational and Rescue Service of Civil Protection of Ukraine. At the same time, there is a contradiction between the objective necessity of the modern system of training of skilled workers for the structural units of Operational and Rescue Service of Civil Protection of Ukraine and the lack of a proactive approach, the results of scientific researches, scientific and technical achievements, insufficient attention to innovative methods and techniques. And it is a prospect of further scientific exploration.

REFERENCES


