Interrelation of regulatory legal acts regulating professional functions of the labor protection specialist

B V Sevastyanov, E B Lisina, N V Selyunina, R O Shadrin and A V Shalamova

Kalashnikov Izhevsk State Technical University, Russia

E-mail: sbv47@mail.ru, leb06@mail.ru, seluninatalia@mail.ru, p_h_d@mail.ru, avsh.71@mail.ru

Abstract: The work shows the history of the development of the profession of a specialist in the field of labor protection. For the first time in the Russian Empire the training of specialists in the field of labor protection took place in the beginning of the 20th century at the Peter the Great Institute, St. Petersburg. In this paper the professional duties of a specialist in the field of labor protection specified in current regulatory legal acts are considered, including working in commissions on labor protection, accident investigation, drafting documents, orders, plans and reports relating to labor protection and providing advice to heads of departments and enterprises about issues in labor protection. It is indicated they have organizational, managerial and supervisory content. The analysis of the content of professional competencies of the Federal State Educational Standard of Higher Education “Technospheric safety” and the labor functions of a specialist in the field of labor protection is presented. It is indicated that some of the academic disciplines included in educational programs are very distantly related to the activities of a labor protection specialist. At the same time, academic disciplines arising from the professional duties of a labor protection specialist are not included in the curricula, which indicates the need for a substantial adjustment of the content of the educational standard for technospheric safety and, above all, towards a more complete account of those functions that are imposed by current regulatory legal acts on specialists of labor protection services organizations. The list of professionally orienteering disciplines that should be included in the curriculum for preparing students in the “Technospheric safety” training area is presented.

1. Introduction

The training of labor safety specialists in Russia began in 1902. Subdivision of the factory inspection was created in the economic service of Peter the Great St. Petersburg Polytechnic University. The first graduation was held in 1906.

According to the data of 1900, the profession “Factory Inspector” was among top ten intellectual professions of the Russian Empire. In those years Issues of compliance with working conditions were supervised by members of the imperial family. Much attention was paid to the personal qualities of factory inspectors. Minister of Finance S.Yu. Witte writes in his address to the factory inspectors: “With moral authority, a reasonable advice from a factory inspector and his sensible instructions will do more than use of a penalty for violating the laws”. Training of professional specialists in labor protection in Russia had begun in such conditions. Article 33 of the Charter “On Industrial Labor”, the first labor code of Russia of 1913, stated the following requirements for factory inspectors: “The positions of factory inspectors are mainly given to persons who have completed a course in higher and
mainly technical educational institutions” [2]. For those wishing to take up a factory inspection post, tests have been developed in a special commission established at the Industry Department of the Ministry of Trade and Industry, according to a program approved by the Minister on August 16, 1914. According to this extract, one of the main objectives of training inspectors was the increasing of their level of engineering training. Those students who have chosen a noble goal of lightening the labor of factory workers were taught safety techniques, fire engineering and economics. The factory inspector and the production engineer N.A. Shevalev was responsible for the training. The training was carried out from 1906 to 1916 [3].

2. Methodology of Research
Professional requirements for a labor protection specialist are currently defined by three regulatory legal acts [4, 5, 6].

3. Results
Recommendations [4] identify 5 main objectives and 24 functions of the labor protection service (specialist). They are related to the training or participation in the drafting of various documents, organizational measures, participation in the work of various commissions, including the investigation of accidents, conducting explanatory work, assisting heads of structural divisions in solving various issues in labor protection, drafting orders, plans, reporting documentation.

An important part of a labor protection specialist job is devoted to the control over implementation of various labor protection measures.

Certain documents that must be drawn up by a labor protection specialist are of great importance for workers, determining to a large extent the level of protection of their own health in the work process. Such documents include, for example, a name list of employees sent for medical examinations, a list of personal protective equipment that employees must be provided with in accordance with actual working conditions, a list of additional guarantees and compensations to employees who work under harmful and dangerous conditions.

It is clear from the functions of a labor protection specialist that he should be well aware of one of the most important branches of law - labor law, and even more importantly know the part of labor law that is designated in the legal literature as the Institute for Labor Protection.

It also follows from the Recommendation that the labor protection specialist should monitor the effectiveness of functioning of various collective protection systems for workers - ventilation, lighting, heating, grounding, neutralizing, take part in conducting of inspections of the current technical state of buildings, constructions, equipment, machines and mechanisms. And in order for a labor protection specialist to get prepared to fulfill this part of his professional duties, during his studies he must gain knowledge in such special subjects as industrial ventilation and heating, lighting engineering and machines safety engineering.

The provisions of Managers, specialists and workforce qualification reference book guide (EKS) [5] that entered into force on July 1, 2013 set out the duties of a labor protection specialist in detail. They include organizing and coordinating work on labor protection at the enterprise, developing and control over functioning of the occupational health, industrial safety and environmental protection management system (HSEMS), evaluating and managing the reduction of occupational risk levels, monitoring compliance with the requirements of labor protection legislation at the enterprise, conducting preventive work on the prevention of industrial injuries and diseases of workers. According to EKS, the duties of the labor protection specialist also include informing employees about existing occupational risks, additional guarantees and compensations, monitoring the timeliness and completeness of providing workers with all necessary PPE, the state of collective protective equipment, creating a system of training and instructing labor protection specialists, including drafting of all necessary documentation. The labor protection specialist should also draft planning documents in his field, all types of reports, monitor the use of funding allocated for labor protection, and develop proposals aimed at ensuring their more efficient use. The labor protection specialist is also entrusted
with organizing and participating in the work of the commission for conducting occupational health and safety assessment system (OHSAS), investigating accidents, preparing measures to improve working conditions and occupational safety included in collective agreements, providing medical examinations of workers, and providing guidance to department managers in the development and revision of instructions on labor protection and training programs for workers in labor protection. An important function of a labor protection specialist is to create a system for encouraging safe behavior of workers, increasing the interest of workers in improving working conditions and labor protection. EKS points out specifically what the labor protection specialist should know, namely: laws and other regulatory legal acts in the field of labor protection and the requirements contained therein, standards in the field of occupational safety and labor protection, documentation management and methodological documents on labor protection issues, methods of identifying, evaluating and managing occupational risks, the structure of the enterprise, the main technological processes, the types of equipment used and the rules for its operation, methods of studying working conditions at workplaces, rules and means for monitoring the compliance of technical state of equipment with safety requirements, psycho-physiological requirements for employees, the procedure for investigating accidents and best practices in the field of labor protection.

From the listed above duties and what the labor protection specialist should know, according to the EKS, it follows that the activities of this specialist are mainly organizational and supervisory. A person must have a higher professional education in the field of training “Technospheric safety”, containing the following areas (specialization) of training:
- Life safety in the technosphere;
- Safety of technological processes and production;
- Occupational safety;
- Engineering protection of environment;
- Protection of environment and resource saving;
- Fire safety;
- Protection in emergency situations.

In the Professional Standard of labor protection specialist [6] it is indicated that the activities of this specialist include planning, organization, control and improvement of labor protection management. Its main goal is the prevention of accidents, occupational diseases, reducing the levels of exposure of workers to harmful and (or) occupational hazards, levels of occupational risks. Unlike EKS, Professional Standard specifies qualification requirements - only two specializations are left from the “Technospheric Safety” training area:
- Life safety in the technosphere;
- Safety of technological processes and production.

Specialists in the field of training “Technospheric Safety” with specialization in Protection in emergency situations, Fire safety, Engineering protection of environment, Protection of environment and resource saving are not eligible to work as a labor protection specialists without undergoing professional retraining according to the program, for example, “Labor Protection Management. Technospheric safety” in the amount of not less than 250 hours, i.e. according to the provisions [7].

Accordingly, Professional Standard defined labor functions consisting of three generalized functions.
- A. The implementation and maintenance of occupational health, industrial safety and environmental protection management system (HSEMS), contains four labor functions:
  A.1 – regulatory framework of HSEMS;
  A.2 – providing training for workers in the field of labor protection;
  A.3 – collection, processing and transfer of information on issues of working conditions and labor protection;
  A.4 – ensuring the reduction of occupational risk levels taking into account working conditions.
- B. Control over HSEMS functioning, contains three labor functions:
  B.1 – monitoring of compliance with labor protection requirements;
B.2 – monitoring of the state of working conditions at workplaces;
B.3 – ensuring investigation and accounting of occupational accidents and occupational diseases.

The generalized labor functions A and B and the corresponding labor functions A.1, A.2, A.3, A.4, B.1, B.2, B.3 correspond to the 6th level of professional qualification, and are being formed at the educational level of a bachelor degree.

C. Planning, development and improvement of HSEMS, contains two labor functions:
C.1 – definition of aims and objectives (policies), labor protection management processes and evaluation of HSEMS performance;
C.2 – distribution of duties and responsibilities on labor protection issues and justification of resource provision.

The generalized labor function C and the corresponding labor functions C.1, C.2 correspond to the 7th level of professional qualification, are being formed at the educational level of a master or specialist degree.

For the proper execution of labor functions, a specialist in the field of labor protection should:
− perform certain labor activities;
− possess the necessary skills;
− have the necessary knowledge.

Analysis of the content of the Professional Standard for a specialist in the field of labor protection leads to the conclusion that it is based on the main elements of HSEMS, contained both in national labor legislation and common international standards.

The above review of the functions of a labor protection specialist proves that their content has organizational and managerial nature. At the same time, this does not mean that the future labor protection specialist should exclude training in collective protection systems. Indeed, without having knowledge of these systems, it is impossible to prepare preventive measures that have technical basis.

On July 1, 2016, the Federal Law “On Amendments to the Labor Code of the Russian Federation” and Articles 11 and 73 of the Federal Law “On Education in the Russian Federation” (No. 122-FZ dated 02.05.2015) entered into force. Amendments took into account incorporation of the requirements of professional standards in the Federal State Educational Standard of Higher Education (FSES HE). It is necessary to correlate Professional Standard with the Federal State Educational Standard of Higher Education.

The Federal State Educational Standard of Higher Education specifies professional competencies, as well as requirements for what a graduate should know and be able to do. There are a total of 23 such competencies. Some of them are, for example, the ability to draft graphic documentation (PC-2), to participate in the installation of protective equipment (PC-6), to participate in the maintenance of protective equipment (PC-7), to analyze the mechanisms of human exposure to hazards (PC-16), to monitor the state of protective equipment (PC-18), to take part in research and development experiments (PC-20). Listed above competencies are practically unrelated to the real functions that must be performed by a labor protection specialist of an enterprise. Some academic disciplines included in educational programs (thermophysics, hydraulics, fluid dynamics, etc.) are very remotely related to the activities of a labor protection specialist. At the same time, academic disciplines arising from the professional duties of a labor protection specialist are not included in the curricula and are not studied. Therefore, a substantial adjustment of the content of the educational standard on technospheric safety is necessary, and above all a more complete account of those functions that are imposed by the current normative legal acts on the labor protection specialists.

4. Discussion
The current Federal State Educational Standards regulate a lot, except for the uniformity of graduates’ knowledge. If we recall the previously existing State Educational Standard for the training of engineers (5 years of study), the document contained a list of disciplines and each discipline contained the so-called “pedagogical units”. The teacher, presenting the training material, gave knowledge that was used by the student to form competencies, and this was done in the entire educational space. The
current series of Federal State Educational Standards for bachelor's training contains only competences and how exactly to form them is left at the mercy of the teacher. In our opinion, the Federal State Educational Standard should have an appendix with a list of competencies and, correspondingly, a list of “pedagogical units” for the formation of these competencies. Pedagogical units should be mandatory and additional, which the teacher can use at his own discretion, based on the characteristics of the region - this will save the educational space of the “Technospheric safety” training area.

Let us present the following set of professionally oriented disciplines for inclusion in the curricula of training of labor protection specialists [8]: introduction to technospheric safety; human physiology; occupational health and industrial sanitation; medical and physiological bases of safety; ergonomics; labor law; operation of electrical installations; industrial ventilation and heating; occupational safety; mathematical modeling in labor protection; industrial safety; fire safety; occupational risk management; special assessment of working conditions; reliability of technical systems; personnel management; administrative law; labor protection in industries; labor protection in construction; theory and technique of measuring; supervision and control in technospheric safety; technospheric safety management; industrial ecology; occupational safety psychology; legal support of labor protection; labor safety economics; radiation safety.

5. Conclusion
Incorporation of requirements for a labor protection specialist into educational standards for technospheric safety is of practical importance. Firstly, the current regulatory documents allow labor protection positions to be employed by university graduates in the area of "Technospheric safety", including undergraduate graduates. Secondly, the overwhelming majority of graduates in this area are employed specifically for the positions of labor protection specialists in organizations of various sectors of the economy. Thirdly, in connection with the entry into force of Article 195 of the Labor Code of the Russian Federation [9, 10], which has established requirements for the application of professional standards and the availability of relevant specialized education for specialists, the need for certified labor protection specialists has increased dramatically.

The results of the work were obtained in the framework of research on a grant for scientists of FSBEI of HE “Kalashnikov Izhevsk State Technical University” on the topic: “The use of system analysis in predicting indicators of industrial injuries of the Udmurt Republic” № 20.04.01/18СBB, educational program: 20.04.01 “Technospheric safety”, field of study “Technospheric Safety Management” (20.04.01-1).

References
[1] Volodin A Yu 2003 Factory inspection in electronic documents Economic History Review (Moscow: Publishing House of Moscow State University) 9 pp 17–21
[2] The Charter “On Industrial Labor” The Code of Laws of the Russian Empire 11 2 p 1913
[3] Andreev A V, Efremov S V 2018 The role of Peter the Great Saint Petersburg Polytechnic University in the training of technosphere security specialists Materials of the All-Russian Conference “Technospheric safety as a complex scientific and educational problem” (Saint Petersburg: Publishing house Polytechnic University) pp 13–16
[4] 2000 Recommendations on the organization of work of the labor protection service in the organization Approved By order of the Ministry of Labor of Russia of February 28 14
[5] 2012 The unified qualification directory of posts of managers, specialists and employees Approved By order of the Ministry of Health and Social Development of Russia of May 17 559n
[6] 2014 Professional standard "Specialist in the field of labor protection" Approved By order of the Ministry of Labor of Russia of August 4 524n
[7] 2013 On approval of the organization and implementation of educational activities for additional professional programs (as amended) Order of the Ministry of Education and Science of Russia 499
[8] Minko V M 2018 Towards the harmonization of the educational standard on technosphere safety with the professional functions of a labor protection specialist *Proceedings of the All-Russian Conference* (Saint Petersburg: Publishing house Polytechnic University pp 69–76

[9] Federal Law dated 30.12.2001 No 197-FZ “Labor Code of the Russian Federation”

[10] 2008 "Constitution of the Russian Federation" *As amended by the Laws of the Russian Federation on amendments to the Constitution of the Russian Federation of December 30*