Dependence of the influence of dynamic development at hazardous industrial enterprises of high labor protection requirements and their impact on mortality from accidents

M Lekhman¹, M Shubitidze¹, A Litvinov², Yu Chertov¹, A Iliev¹, K Kobzev¹,*

¹Don State Technical University, Rostov-on-Don, Russia
²Kuban State Technological University, Krasnodar, Russia

*e-mail: 5976765@mail.ru

Abstract. At the same time, two main tasks are solved: the creation of machines and tools, when working with which the danger to humans is excluded, and the development of special protective equipment that ensures human safety in the labor process, as well as training workers in safe working practices and the use of protective equipment, conditions are created for safe work.

The main goal of improving working conditions is to achieve a social effect, i.e. ensuring labor safety, preserving the life and health of workers, reducing the number of accidents and diseases at work.

Improving working conditions also yields economic results: an increase in profits (due to an increase in labor productivity); reduction of costs associated with compensation for work with harmful and difficult working conditions; reduction of losses associated with injuries, occupational morbidity; decrease in staff turnover, etc. The main document in the normative and technical documentation is the normative act "Occupational safety standards system".

1. Introduction

An industrial accident occurs when a working hazardous production factor is exposed to it at the time of performance of his job duties or tasks of the work manager. Examples of accidents include falling from a height, bruises, dislocations, fractures, cuts, traumatic amputations of various parts of the body, burns, frostbite, exposure to electric current, hitting cars, etc.

The consequences of accidents can be very different: from microtraumas, which do not even cause temporary disability, to death. Accidents, depending on the circumstances, reasons, place and time of the incident, are divided into: accidents at work related to work; non-production accidents and domestic injuries.

The criteria for classifying an injury as an industrial injury (industrial accident), the procedure for investigating. This resolution approved the Rules for Investigation and Recording of Industrial Accidents and Occupational Diseases. These Rules establish a unified procedure for the investigation, registration and recording of industrial accidents and occupational diseases.

These Rules apply to: employers; policyholders for compulsory insurance against industrial accidents and occupational diseases (hereinafter - the policyholders); insurers entrusted with compulsory insurance against accidents and occupational diseases (hereinafter - insurers); foreign citizens and stateless persons; performing work on the basis of an employment contract (contract) (hereinafter referred to as employees); performing work on the basis of membership in organizations of any organizational and legal forms; heads and members of peasant (farming) households; students and pupils.
of educational institutions, including during their industrial practice (internship). The Rules for the investigation and registration of accidents apply regardless of the affiliation or non-affiliation of the victims with trade unions, however, the Rules reflect the powers of trade unions.

2. Methods
Certification of workplaces in terms of working conditions - a system of analysis and assessment of workplaces for health improvement activities, familiarization of workers with working conditions, certification of production facilities, confirmation or cancellation of the right to provide compensation and benefits to workers engaged in heavy work and at work with harmful and hazardous working conditions.

The procedure for attestation of workplaces according to labor conditions (hereinafter referred to as the Procedure) applies to all enterprises, institutions, organizations and other business entities, regardless of the form of ownership (hereinafter referred to as the enterprise).

Certification is carried out in accordance with the Procedure and Methods for the certification of workplaces for working conditions, agreed upon with the associations of trade unions, and includes:

• hygienic assessment of the existing conditions and nature of work;
• assessment of injury safety of workplaces;
• assessment of the provision of PPE to employees.

Based on the results of instrumental measurements of the level of harmful factors at the workplace, the class of working conditions (safe, harmful, hazardous) and the degree harmful working conditions are determined according to hygienic criteria (Fig.1).

![Figure 1. The number of industrial cases per 1000 people. Dynamics of decline in indicators](image-url)

Based on the results of the examination of the workplace for compliance with equipment, tools, teaching aids and instruction with the requirements of regulatory and legal acts, the class of working conditions for injury safety is determined (optimal, permissible, dangerous).

According to the results of the study of the nature of labor, the class of labor is determined by the degree of severity (light, medium, heavy three degrees). The results of the assessments are documented in acts and protocols of the established form. Information about the results of certification is entered into the Card of working conditions at the workplace, the form of which is approved. A photograph of a working day is a compulsory attachment to the Map of Working Conditions at the Workplace.

Certification is carried out by the certification commission of the enterprise, the composition and powers of which are determined by the order of the head of the enterprise. The frequency of certification is once every five years.
The results of the certification are used for:
- planning and carrying out measures to protect and improve working conditions;
  - substantiation of the provision of benefits and compensations to employees (additional payments to the wage scale, the duration of the working week and holidays, the provision of milk and therapeutic and prophylactic nutrition, preferential pensions, work and rest regimes, the frequency of medical examinations, the possibility of using the labor of a certain category of workers - women, youth, etc.);
  - decisions about the connection of the disease with the profession and the establishment of a diagnosis of an occupational disease;
  - preparation of statistical reporting on labor protection;
  - application of administrative and economic sanctions to officials guilty of violation of working conditions.

Certification of workplaces for working conditions is one of the organizational methods of ensuring labor safety, control and examination of working conditions.

An extraordinary certification is carried out: in case of a change in the conditions and nature of work during the reconstruction of the enterprise, the introduction of new equipment and technology, the use of new types of raw materials and materials; with the improvement of working conditions through the implementation of organizational and technical measures; at the initiative of the employer, the body of the trade union committee, the employee of the enterprise; on the initiative of the State Expertise of Working Conditions.

3. Results
Occupational safety offices are designed to promote labor protection, safe methods and techniques of work. The labor protection office can be combined with an office for training sessions (if the number of employees is less than 300 people). In the structural divisions of the organization, areas for labor protection are created (with the number of employees less than 100 people) (Fig.2).

![Figure 2. Dependence of occupational injuries in hazardous industries (blue bar), fatalities at work (red bar) statistics are based on the indicators of the Southern Federal District of Russia](image)

The main tasks of the labor protection office:
- training, instruction and testing of knowledge on labor protection;
- informing employees about working conditions and labor protection at workplaces, relying on PPE and compensation for working conditions;
- providing methodological assistance to structural units in organizing work on labor protection;
- organization of consultations, lectures, exhibitions on labor protection;
- creation of an information base of normative and legal acts on labor protection.
4. Discussion

After the examination, each employee is prescribed medical and health-improving measures: dispensary observation, referral to inpatient and sanatorium treatment, special meals, etc.

If necessary, they recommend a transfer to another job, give a referral to a medical and rehabilitation expert commission for transferring to a disability, etc. If workers find signs of an occupational disease, they are sent to the occupational department for a special examination and to establish a connection between the disease and professional activities. At the same time, appropriate treatment is carried out.

According to the same article, at work related to pollution, workers are given free soap according to the established norms. At work, where exposure to the skin of harmful substances is possible, washing and neutralizing agents are issued free of charge according to established standards.

In the office of labor protection there are educational materials, reference-methodical and information-exhibition materials. The labor protection office must be equipped with:

- regulatory legal acts on labor protection, taking into account the specifics of the enterprise, including a hundred gad and mouths, rules, instructions;
- curricula, methodological, reference and other materials necessary for training;
- technical teaching aids: projection, video, audio equipment, personal computers, simulators, control and measuring devices, etc .;
- visual aids: posters, diagrams, models; samples of tools, protective equipment, videos, etc .;
- exposition equipment: showcases, racks, stands;
- the necessary office equipment and telephone communication. Recommended list of labor protection documentation:
  1. Work plans of the labor protection cabinet.
  2. Log of registration of introductory briefing.
  3. Training programs and protocols for testing knowledge on labor protection issues.
  4. Educational-methodical and instructive literature on labor protection.
  5. Normative legal acts on labor protection.
  6. Information materials on accidents and accidents at work, occupational diseases in the industry.
  7. Statistical reporting on labor protection.
  8. Minutes of meetings, seminars, action plans and orders for labor protection.
  9. Collective agreement, labor protection agreement.
10. Materials of certification of workplaces for working conditions.

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