

**IMPROVEMENT OF THE MECHANISM FOR PROTECTING PERSONNEL SAFETY
AT INDUSTRIAL ENTERPRISES' PRODUCTION FACILITIES**

Mukhiddinova Kamola Sagdullayevna

Tashkent Institute of Economics and Pedagogy, teacher of economic sciences

E-mail id: kamola9826@mail.ru

Isroilov Samandar Xursanbekovich

Student of the Tashkent Economic and Pedagogical Institute

Annotation

This article will talk about methods and means of improving the mechanism for protecting the safety of employees in the production of industrial enterprises, methods of using Technical Safety in the process of work, rules and procedures on labor protection and Technical Safety. Directions for improving the mechanism for protecting the safety of employees are indicated in the production of industrial enterprises. The impact of the mechanism for protecting the safety of employees on the development of industrial production and its practical results are expressed. The main purpose of the mechanism for protecting the safety of employees is to provide employees with information on dangerous factors that occur during the period of human labor activity in production, their causes and ways of elimination, ensuring labor frustration and creating safe and healthy working conditions, protecting employees from various risks and generating practical skills. The main issue of the author's research is aimed at highlighting the issues of improving the mechanism for protecting the safety of employees in the production process at enterprises, explaining the procedure for labor protection and providing instructions on how to put them into practice, establishing the rules of Technical Safety.

Keywords: Industrial enterprises, employee safety, employee safety protection, labor protection, Technical Safety, production process.

Introduction

Nowadays, industrial enterprises all over the world are developing and improving. Therefore, various modern technologies are used in industrial enterprises in order to improve the efficiency and productivity of the production process. These can include fully and semi-automated production technologies, information and communication technologies and production devices, as well as equipment running on various software media. Because as the production environment in industrial plants, i.e. production technologies and methods, develops, the problems and important issues regarding the protection of personnel safety increase. Because during the production process, employees may experience cases of mental and physical injuries. In order to prevent this from happening, it is necessary to improve the personnel safety protection mechanism in the production of industrial enterprises.

In order to improve the mechanism of personnel safety protection mechanism in the production of industrial enterprises, it will be necessary to realize a number of tasks. They include ensuring high qualification and experience of employees at the enterprise, achieving high intellectual potential of employees, ensuring technical and technological safety of the enterprise, achieving high efficiency of enterprise management, ensuring sufficient environmental level of

enterprise activities, ensuring legal labor protection of employees at the enterprise, protecting information and communication environment of the enterprise.¹

In order to protect the safety of workers at industrial enterprises in Uzbekistan, the State has developed various decisions and decrees. In order to ensure the industrial safety of hazardous production facilities, to establish the procedure for recording and maintaining the State register of hazardous production facilities, and to exercise industrial control over compliance with industrial safety requirements in accordance with the Industrial Safety of Hazardous Production Facilities Act, the Cabinet of Ministers has decided: In accordance with it, the maintenance of the state register of hazardous production facilities involves the creation of a database on hazardous production facilities, the implementation of state policy in the field of industrial safety, the implementation of monitoring of the provision of industrial safety requirements at hazardous production facilities, as well as the collection, analysis and systematisation of information on registered hazardous production facilities and organisations using these facilities. is done in order to preserve².

Safety and health management is an integral part of business management. Companies must conduct risk assessments to identify hazards and risks in their workplace and take measures to effectively control these risks and hazards to ensure that they cannot harm employees. Employee safety refers to providing a safe working environment for employees by implementing safe equipment and safe procedures in the workplace to ensure employee safety.

Employee safety is important to maintain a good safe working environment to improve morale and productivity. This in turn contributes to the growth and profitability of the company. Failure to follow safety rules for employees can have legal and financial consequences. Safety training, periodic safety checks and provision of proper personal protective equipment are part of the employee safety mandate that an organisation must comply with³.

Providing a safe and healthy working environment is not only a measure to protect workers from injury and illness, but safety measures can also reduce the costs of injury and illness, reduce redundancies and improve employee morale in an organisation. Simply put, protecting employee safety is good and profitable for industrial companies. Employee safety extends to other benefits as well, including:

- Improving employee retention
- Assist in continued compliance with the administration's health and safety requirements
- Creating a safe working environment to improve efficiency
- Protecting the company's reputation with customers, competitors and the general public.

LITERATURE REVIEW

Исследования по обеспечению безопасности сотрудников проводятся с момента зарождения корпоративной отрасли. Обеспечение безопасности труда человека и охраны

¹ Беляков, Г. И. Охрана труда и техника безопасности : учебник для среднего профессионального образования / Г. И. Беляков. — 5-е изд., перераб. и доп. — Москва : Издательство Юрайт, 2024. — 740 с.

² Decision of the Cabinet of Ministers of the Republic of Uzbekistan “on industrial safety of hazardous production facilities” dated May 19, 2020

³ Девисилов В. А. Охрана труда: учебник. — 3-е изд., испр. и доп. — М.: ФОРУМ: ИНФРА-М, 2013. — 448 с.

безопасности персонала в первую очередь требует изучения процесса его трудовой деятельности и опасных факторов, возникающих при ее осуществлении. Поэтому исследовательская работа по обеспечению безопасности трудовой деятельности человека встречается и в трудах Аристотеля, жившего в 384-322 годах до нашей эры, Гиппократ, жившего в 460-377 годах до нашей эры.

As a result of intensive industrial development in the nineteenth century, several scientists who conducted scientific research on the problems of personnel safety protection grew up. In particular, V.L.Kirpicheva (1845-1913.), A.A.Bess (1857-1930-U.), D.R.Nikolsky (1855-1918-um.), V.A.Levitsky (1867-1936-U.), A.A.Skochinsley(1874-1960.), S.I.Kaplun (1897-1943-U.) are among them. Ensuring personnel safety has been considered one of the most important aspects of human activity from ancient times to the present day⁴.

Qilong Chen, Hongliang Li and Xiao Pan said that, the sustainable environmental development strategy of the enterprise can well control the risk factors that jeopardise the occupation of the enterprise's employees, and promote the health and safety of the enterprise's employees and enterprises.⁵

V. Weale, Y. Wells, J. According to Ockman's work, advances in technology and engineering, as well as economic progress, have led to many different risks, including occupational risks. Technological and technological advances have certainly improved work processes. Thanks to them, among other things, static movement, excessive signalling stimuli and noise have replaced physical overload. On the other hand, the automation of many work processes has led to monotypy and monotony, which are dangerous to the musculoskeletal system⁶.

Xabier Irastorza says that assessing how certain risks affect our health and safety at work depends on many factors, but the starting point is clearly the type of industry and the size of the company. A reliable and realistic identification of occupational risks in the work environment provides the basis for further processes related to health and safety management in the enterprise. These include: assessing occupational risks, preventive measures, ensuring employee safety and encouraging accidents. sh, or need to improve working conditions⁷.

МЕТОДОЛОГИЯ ИССЛЕДОВАНИЯ

In the course of the study, the issues of improving the mechanism of protection of personnel safety in the production of industrial enterprises, scientific research on occupational health and safety were studied. In the process of formation of the article the methods of observation and selection, scientific-theoretical, empirical observations were used. The reliability of the research results is explained by the use of foreign and national statistical official sources used in the study.

⁴ Юлдашев О'Р., Рахимов О.Д., Ходжакулов Р.Т., Гасанова О.Т. Охрана труда и безопасность техники. – Т.: ООО» периодиздат", 2013, 200 стр.

⁵ Qilong Chen, Hongliang Li and Xiao Pan. Occupational Health Development and Safety Management of Enterprise Employees Based on the Perspective of Sustainable Environment. National Library of Medicine, 2022

⁶ Weale, V.P., Wells, Y., Oakman, J. (2018). Self-reported musculoskeletal disorder pain: The role of job hazards and work-life interaction, American Journal of Industrial Medicine, 61, 130-139, DOI: 10.1002/ajim.22793

⁷ Xabier Irastorza (2019). European survey of enterprises on new and emerging threats, <https://osha.europa.eu/pl/publications/european-survey-enterprises-new-and-emerging-risks-esener-2019-background-briefing/view>, (07.05.2020)

ANALYSIS AND RESULTS

One of the main tasks of personnel safety protection is to provide employees with safe working conditions. Safe working conditions, i.e. labor safety is a state of working conditions in which the impact on workers of all dangerous and harmful factors in production conditions is eliminated.

Occupational injuries occur when many physical and chemical factors are exposed in the production environment. The occurrence of such hazardous factors will depend on the nature of the technological process, the design of working equipment, the level of work organization and a number of similar factors.

Hazards can be manifest or latent, depending on the nature of their occurrence. A manifest hazard is characterized by visible external signs. For example, a moving machine part, a lifted load, etc. Hidden danger is characterized by the presence of hidden defects, faults in machines, mechanisms and working equipment, leading under certain conditions to a dangerous condition, destruction. Hidden hazards also include such as disorder at the workplace, pollution, non-compliance with safety requirements, improper, that is, other use of work equipment and devices, broken electrical wiring, error and incorrect behavior of the employee.

The prevention of occupational injuries is a complex problem that requires, above all, close attention to safety requirements at the design stage of machines and mechanisms.

The place where permanent or temporary hazards in human activity occur is called hazardous areas. A person may be exposed to hazards either by direct contact or by approaching at a distance less than the specified distance. Hazardous areas can occur around moving and rotating machinery mechanisms, around cargo lifted during the operation of loading and unloading machines. Areas where mechanisms rotating or moving at high speed may entangle work clothing or hair are considered particularly hazardous. The size of hazardous areas will be constant or variable. Therefore, the size of hazardous areas must be determined and considered when designing protection measures against hazards.

In accordance with the above, safety requirements are set for the design of all machines and mechanisms, taking into account the tasks they perform. The safety requirements for the design of machines and mechanisms in general can include: the presence of protective guards on all moving and rotating mechanisms of machines and mechanisms; the absence of sharp edges, uneven surfaces of the mechanism or parts (except for parts manufactured by the requirement of the technological process); the dimensions of the machine should provide a safe and comfortable transport position; be comfortable in the steering columns; have comfortable and convenient conditions for the worker in the cabs; be provided with appropriate safety equipment; have a comfortable and convenient transport position; and have a safe and comfortable working environment. Special technical requirements are also imposed on individual mechanisms of machines and mechanisms⁸.

Industrial safety is also crucial to protect the safety of employees. This is stated in the Law of the Republic of Uzbekistan "On Industrial Safety of Hazardous Production Facilities":

⁸ Uktamov X.F. Ways to ensure the economic security of industrial enterprises. Proceedings of the 33rd conference on "ilmfan and educational issues in Uzbekistan: problems and solutions". 171-173 P.

- Industrial safety is the state of protection of vital interests of individuals and society from accidents and unfavorable phenomena at hazardous production facilities and their consequences.
- An accident at hazardous production facilities is the destruction of structures and (or) technical devices used at hazardous production facilities, uncontrolled explosion and (or) release of hazardous substances.
- An adverse event at hazardous production facilities is the failure or damage of technical devices used at hazardous production facilities, deviation from the technological process regime, violation of the requirements set forth in legislative acts in the field of industrial safety, as well as normative technical documents.⁹

In improving the personnel safety protection mechanism in the production of industrial enterprises, the occupational health and safety policy of enterprises shall be implemented in accordance with the requirements of the period. In implementing the health and safety policy, the employer, in consultation with the employees and their representatives, shall define the health and safety policy in writing, and the policy shall be communicated to all employees.

Staff must ensure that they use safe tools and equipment and this equipment must be stored properly. Color codes, posters, labels or signs should be used to warn employees of potential hazards. Work procedures should be established or updated. Employees should be informed of health and safety compliance. Occupational safety is mainly accomplished through the following measures:

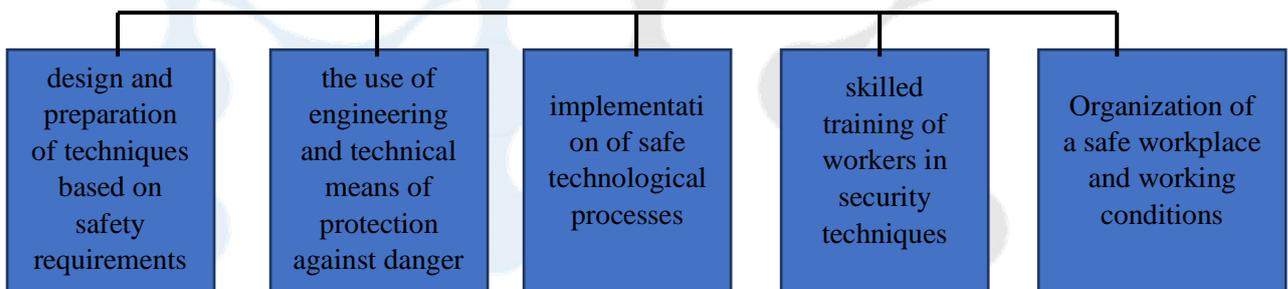


Figure 1: Measures to ensure safety at work¹⁰

We can look at 4 basic steps to improve the employee safety protection mechanism in the manufacturing industry. It may seem like a process but occupational health and safety in manufacturing plants can be categorized into four basic steps. These include creating a culture that promotes health and safety, providing employees with the appropriate safety equipment and training in a comprehensive safety program, and implementing them. If these steps are done correctly, employee safety will be assured, which will increase productivity as well as save financial resources (Table 1):

Table 1.

Mechanisms for protecting the safety of employees in the manufacturing industry¹¹

⁹ Law of the Republic of Uzbekistan No. 57 "on industrial safety of hazardous production facilities" dated September 28, 2006

¹⁰ Official Occupational Safety and Health Administration www.osha.gov the information on the site was prepared by the author in the framework.

¹¹ "Evotix For Business, EHS&S For People" ning rasmiy www.evotix.com saytidagi ma'lumotlar asosisda muallaf tomonidan tayyorlandi.

Creating a culture of occupational health and safety	Creating a health and safety culture is an important step towards improving safety practices. This can be done by regularly training employees in health and safety, optimizing practices and procedures, encouraging positive behavior, maintaining an open dialogue and engaging management.
Proper use of safety equipment	Safety equipment” does not only mean personal protective equipment. It is important that personnel are provided with appropriate personal protective equipment such as clothing, special accessories and work tools. In addition, protective equipment against various techniques can be used during work.
Conducting occupational health and safety trainings	When there is a high level of risk in the work of production personnel, managers should ensure that employees receive proper safety training so that they can perform their jobs safely. A system should also be available to allow the employer to track which training courses have been completed and provide employees with easy access to training resources.
Establishment of an employee protection program	A detailed and comprehensive safety program should be available to ensure that employers have a holistic view of their workplace safety practices and measures. Modern software tools provide an approach where every aspect of safety in the enterprise is monitored accordingly.

From the above table, we can see that as the mechanism to protect the safety of personnel in industrial enterprises improves, the efficiency and development of activities in the enterprise also increases.

Creating a safe and efficient work environment is a complex process that requires continuous commitment and adherence to best practices. Occupational health and safety measures implemented in industrial plants include enterprise risk management, staff training, and the development of a sustainable safety culture. Provides a comprehensive roadmap to a safer and more comfortable workplace (Table 2).

Table 2

Measures for the implementation of Labor security practices¹²

Development of a comprehensive security policy	Clear security policies defining the organization's commitment to security, as well as the responsibilities of management and employees, should be established and publicized on an ongoing basis.
Employee training	Regular and complete training in safety procedures, hazards and proper use of personal protective equipment is required.
Risk	Regular risk assessments should be carried out to identify and

¹² Santhosh (2024). What is a safe working environment: Benefits, best practices, and examples // CultureMonkey – Published with Ghost & customized Penang. URL: <https://www.culturemonkey.io/employee-engagement/safe-working-environment/>

assessment and control	reduce potential risks in the workplace. Control measures must be implemented to reduce or eliminate these risks.
Regular safety inspections	Frequent safety inspections and audits are needed to ensure safety standards are met and to identify areas for improvement.
Contingency plan	An emergency plan that includes procedures for fires, medical emergencies, natural disasters and other potential crises should be developed and regularly reviewed.
First aid and medical facilities	well-equipped first aid kits should be available, as well as easy access to medical facilities in case of more serious injuries.
Promoting a culture of safety	A safety culture in which employees feel comfortable dealing with safety issues, failures or incidents without fear of work should be encouraged.
Ergonomic workstations	Workstations should be designed to be ergonomically designed to reduce the risk of musculoskeletal problems and ensure employee comfort and convenience.
Protective gear and equipment	Personal protective equipment should be regularly checked and improved. Necessary safety equipment and facilities such as firefighting equipment, safety signs and protective equipment should be provided.

By following these safety best practices, organizations can maintain a safer workplace, reduce the risk of accidents and injuries, and enhance a culture of safety and well-being among employees.

In addition, it is necessary to create an ergonomic work environment when improving the safety protection mechanism of personnel in the production of industrial enterprises. Ergonomic work environment refers to a workspace designed to optimize employee comfort and productivity by adapting to the needs of the human body. This includes Thoughtful placement of furniture, equipment and tools to reduce physical strain and discomfort, thereby reducing the risk of musculoskeletal disorders and improving overall performance. Key elements of an ergonomic work environment include adjustable furniture to adapt to different body sizes and positions, proper lighting to reduce eye strain and fatigue, and ergonomic tools and equipment designed to provide a neutral body position and reduce repetitive motions. In addition, ergonomics principles emphasize the importance of regular breaks, proper posture, and ergonomic training to teach employees healthy work habits and self-care techniques. By prioritizing ergonomics in the workplace, organizations can create a more comfortable and supportive environment that improves employee health, safety and productivity¹³.

Conclusion

¹³ Santhosh (2024). What is a safe working environment: Benefits, best practices, and examples // CultureMonkey – Published with Ghost & customized Penang. URL: <https://www.culturemonkey.io/employee-engagement/safe-working-environment/>

To summarize, the personnel safety protection to safeguard and promote the health of workers should meet the special needs of the enterprise and the workers working in the enterprise. Industrial enterprises should establish a detailed activity program or organization chart and working conditions on the personnel safety protection mechanism, which should be appropriate for all.

The tasks of the personnel safety protection mechanism are to protect and promote the health of workers, improve the working environment and working conditions and maintain the health of the enterprise as a whole, provide occupational safety services to workers, and provide expert advice to the employer.

In order to improve the mechanism for protecting the safety of personnel in the production of industrial enterprises, the following work should be carried out:

- It is necessary to analyze the type of production and organize a safety system appropriate to it. An analysis of the type of production shows the types of risks inherent in the business activity, job or profession, and therefore helps to identify the risks that can be expected to be encountered in the enterprise and that require special attention.

- Consideration should be given to issues related to personnel safety at the enterprise. Consideration of problems identified by occupational health and safety specialists, management, workers or other professionals, and previous occupational health and safety activities in the workplace indicates the perception of the problems by the enterprise. This includes reviewing reports on occupational health and safety measures, industrial hygiene measurements, biological monitoring data, etc.

- The characteristics of the workforce should be considered. Workforce characteristics include age, gender, ethnicity, family relationships, occupational classification, work history and health-related problems, if any. A review of workforce characteristics can help identify vulnerable groups and those with special needs.

- Existing information on occupational illnesses and accidents, as well as medical separations, should be verified, if possible, grouped by department, occupation and type of work, causal factors, and type of injury or illness.

- Data on work practices, chemicals used on the job, measurements of recent exposures, and the number of workers at special risk are needed to identify critical problems.

- Employees' knowledge of occupational health and safety issues, their level of training in emergency response and first aid, and the prospects for an effective occupational health and safety committee should be examined.

- Expected plans to change production systems, install new facilities, machinery and equipment, introduce new materials and changes in work organization should be considered as a basis for changing occupational health and safety practices in the future.

Based on the information obtained from the initial orientation to the company, the workplace review is preferably conducted by a multidisciplinary occupational health and safety team staffed by employers and employee representatives. This should include interviews with managers, foremen and employees. Special safety, hygiene, ergonomics or psychological tests may be carried out if necessary.

Special checklists and guidelines exist and are recommended for such inquiries. Observations may indicate the need for special measurements or checks to be carried out by

specialists in occupational health, ergonomics, toxicology, safety or psychology, who may be part of the company's occupational health and safety team or may have to be procured externally. Such specialized measurements or checks may be beyond the resources of small enterprises, which must rely on qualitative or, at best, semi-quantitative observations during the survey.

LIST OF LITERATURE USED:

1. Decision of the Cabinet of Ministers of the Republic of Uzbekistan on additional measures to implement the law of the Republic of Uzbekistan "on industrial safety of hazardous production facilities" dated May 19, 2020
2. Law of the Republic of Uzbekistan No. 57 "on industrial safety of hazardous production facilities" dated September 28, 2006
3. Decree of the Cabinet of Ministers of the Republic of Uzbekistan dated September 15, 2014 No. 263 "on further improvement of measures for the protection of workers' labor"
4. Decree of the president of the Republic of Uzbekistan No. 4947 "on the strategy of action for the further development of the Republic of Uzbekistan" adopted on February 7, 2017
5. Decree of the president of the Republic of Uzbekistan "on measures to approve the digital Uzbekistan-2030 strategy and increase it to savaraliamal" dated October 6, 2020 PF-6079
6. Беляков, Г. И. Охрана труда и техника безопасности : учебник для среднего профессионального образования / Г. И. Беляков. — 5-е изд., перераб. и доп. — Москва : Издательство Юрайт, 2024. — 740 с.
7. Девисилов В. А. Охрана труда: учебник. — 3-е изд., испр. и доп. — М.: ФОРУМ: ИНФРА-М, 2013. — 448 с.
8. Yo'ldoshev O'R., Rahimov O.D., Xo'jaqulov R.T., Hasanova O.T. Mehnat muhofazasi va texnika xavfsizligi. – T.: «Davr nashriyoti» MChJ, 2013, 200 bet.
9. Qilong Chen, Hongliang Li and Xiao Pan. Occupational Health Development and Safety Management of Enterprise Employees Based on the Perspective of Sustainable Environment. National Library of Medicine, 2022
10. Weale, V.P., Wells, Y., Oakman, J. (2018). Self-reported musculoskeletal disorder pain: The role of job hazards and work-life interaction, American Journal of Industrial Medicine, 61, 130-139, DOI: 10.1002/ajim.22793
11. Xabier Irastorza (2019). European survey of enterprises on new and emerging threats, <https://osha.europa.eu/pl/publications/european-survey-enterprises-new-and-emerging-risks-esener-2019-background-briefing/view>, (07.05.2020)
12. Uktamov X.F. Sanoat korxonalari iqtisodiy xavfsizligini ta'minlash yo'llari. "O'zbekistonda ilm-fan va ta'lim masalalari: muammo va yechimlar" mavzusidagi 33-sonli konferensiya materiallari. 171-173-b.
13. "Evotix For Business, EHS&S For People"ning rasmiy www.evotix.com saytidagi ma'lumotlar asosida muallaif tomonidan tayyorlandi.

THE MULTIDISCIPLINARY JOURNAL OF SCIENCE AND TECHNOLOGY

VOLUME-4, ISSUE-4

14. H.X. Razzoqov, Sh.A. Mamasov. Hayot faoliyati xavfsizligi -T .: «Fan va texnologiya», 2019, 288 bet.
15. Santhosh (2024). What is a safe working environment: Benefits, best practices, and examples // CultureMonkey – Published with Ghost & customized Penang. URL: <https://www.culturemonkey.io/employee-engagement/safe-working-environment/>
16. Mehnatni muhofaza qilish va mehnatni muhofaza qilish boshqarmasi (Occupational Safety and Health Administration)ning rasmiy sayti www.osha.gov
17. Shavkatova , S. ., & Nabijonov , O. . (2022). INNOVATSIYA FAOLIYATINING AHAMIYATI. Евразийский журнал права, финансов и прикладных наук, 2(11), 4–7. извлечено от <https://in-academy.uz/index.php/EJLFAS/article/view/4088>
18. Otabek Ganiyevich Nabijonov, Shokhzod Otabek ugli Abdurazzokov, Sanjarbek Zokhidjon ugli Yuldashaliyev Academic research in modern science 1 (1), 220-222, 2022
19. "Evotix For Business, EHS&S For People"ning rasmiy sayti www.evotix.com
20. <http://www.lex.uz> – O‘zbekiston Respublikasi qonunlari bazasi sayti
21. <https://www.imv.uz> – Iqtisodiyot va moliya vazirligi sayti
22. <http://www.soliq.uz> – O‘zbekiston Respublikasi Davlat soliq qo‘mitasi sayti
23. <http://www.stat.uz> – O‘zbekiston Respublikasi Davlat statistika qo‘mitasi sayti