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EFFECTIVE METHODS FOR IDENTIFICATION, ASSESSMENT AND MANAGEMENT OF OCCUPATIONAL RISKS IN ENTERPRISES

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Annotation: This article examines the main approaches to identifying, assessing and managing occupational risks in enterprises. The identification of hazards is considered with regard to technological processes, equipment, the working environment, human factors and possible emergency situations. The main principles of risk assessment and priority measures for risk reduction are analyzed. Particular attention is paid to regular monitoring, documentation of risks and employee participation in ensuring occupational safety.

Keywords: occupational health and safety, occupational risk, hazard identification, risk assessment, risk management, occupational safety, risk matrix, personal protective equipment.

Annotatsiya: Mazkur maqolada korxonalarda mehnat faoliyati bilan bog‘liq xavflarni aniqlash, kasbiy xavf-xatarlarni baholash va ularni boshqarishning asosiy yondashuvlari yoritilgan. Xavflarni identifikatsiya qilishda ish jarayonining xususiyatlari, uskunalar, ishlab chiqarish muhiti, inson omili va favqulodda holatlar hisobga olinishi ko‘rib chiqilgan. Risklarni baholashning mazmuni hamda xavflarni kamaytirishning ustuvor choralari tahlil qilingan. Xavflarni muntazam monitoring qilish, hujjatlashtirish va xodimlarning xavfsizlik jarayonidagi ishtiroki mehnat muhofazasi samaradorligini oshiruvchi muhim omillar sifatida asoslangan.

Kalit so‘zlar: mehnat muhofazasi, kasbiy xavf-xatar, xavfni identifikatsiya qilish, risklarni baholash, risklarni boshqarish, mehnat xavfsizligi, xavflar matritsasi, shaxsiy himoya vositalari.

Аннотация: В статье рассматриваются основные подходы к выявлению, оценке и управлению профессиональными рисками на предприятиях. Рассмотрены особенности идентификации опасностей с учетом технологических процессов, оборудования, производственной среды, человеческого фактора и возможных аварийных ситуаций. Проанализированы основные принципы оценки рисков и приоритетные меры по их снижению. Особое внимание уделено регулярному мониторингу, документированию рисков и участию работников в обеспечении безопасности труда.

Ключевые слова: охрана труда, профессиональный риск, идентификация опасностей, оценка риска, управление рисками, безопасность труда, матрица рисков, средства индивидуальной защиты.

Today, ensuring occupational safety in industrial enterprises and protecting the life and health of employees are among the most important priorities. If hazardous and harmful factors present in production processes are not identified in a timely manner, they may lead to accidents, occupational diseases, emergencies, and other undesirable consequences. Therefore, hazard identification, occupational risk assessment, and risk management should be carried out regularly in enterprises.

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Occupational hazard identification involves identifying sources of danger that may cause harm to employees in the workplace and assessing their potential consequences. This process should not be limited to permanent employees; it should also cover temporary workers, contractors, visitors, and other persons who may be present in the workplace. When identifying hazards, it is necessary to consider the characteristics of the workplace, the type of work being performed, the equipment and materials used, employees' qualifications, and the condition of the working environment.

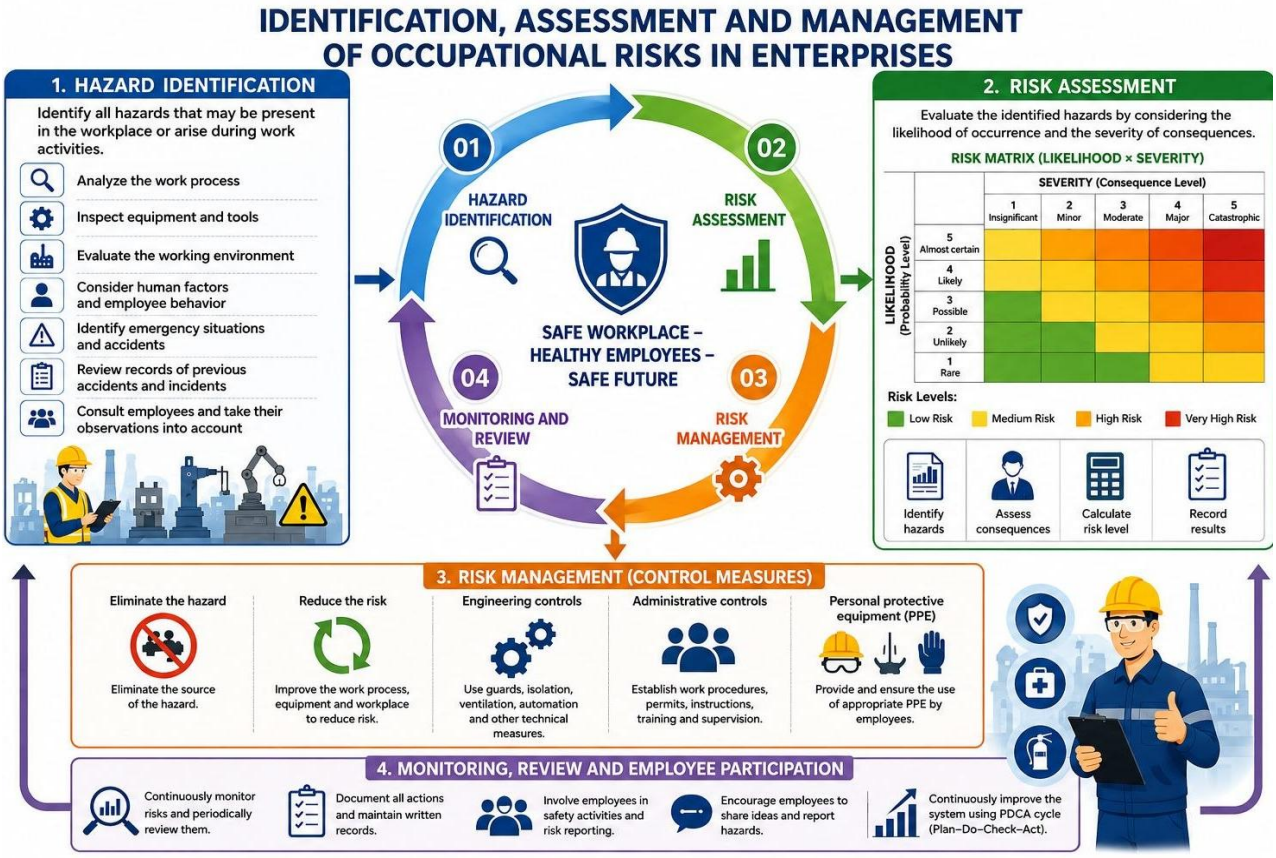
During the hazard identification process, it is appropriate to use workplace assessment results concerning working conditions, the technical condition of buildings and structures, equipment technical passports, technological instructions, information on previous accidents and incidents, expert opinions, and employee observations. A comprehensive analysis of these sources makes it possible to identify existing and potential hazards in the enterprise more completely and accurately.

When assessing hazards, it is important to analyze all stages of the work process sequentially. This includes preparation before work begins, the main technological operations, equipment adjustment and maintenance, loading and unloading activities, and processes carried out after the completion of work. In addition to normal operating conditions, hazards that may arise during equipment malfunctions, accidents, emergencies, and unplanned activities should also be considered.

Workplaces may involve electrical, mechanical, chemical, physical, thermal, ergonomic, transportation, fall-from-height, fire, and explosion hazards. Each of these hazards may affect employees' lives and health in different ways. For example, electrical hazards may cause electric shock and burns; mechanical hazards may result in injuries and fractures; chemical hazards may cause poisoning and burns; and hazards associated with working at height may lead to serious injuries. Therefore, hazards should be assessed not only according to their presence but also according to the probability of occurrence and the severity of their potential consequences.

Risk assessment is based on the probability of an identified hazard occurring and the severity of its consequences. In the methodology presented in the article, overall risk is determined using the formula $R = A \times B \times V$, taking into account the probability of occupational disease, the probability of an occupational injury, and the severity of potential consequences. This approach makes it possible to prioritize hazards and establish measures first for those risks that may cause significant harm to employees' lives and health.

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1-figure. The process of identifying, assessing, managing and monitoring occupational risks in enterprises.

In risk management, applying the hierarchy of hazard controls is considered an effective approach. First, the hazard should be completely eliminated whenever possible. If elimination is not possible, the hazardous process, equipment, or substance should be replaced with a less hazardous alternative. The next stage involves engineering controls, technical barriers, ventilation, automation, and remote-control systems.

Administrative controls include developing appropriate instructions, training employees, explaining safe working practices, and monitoring compliance with established requirements. Personal protective equipment is used as the final protective measure within the hierarchy of hazard controls.

The effectiveness of risk management is closely connected with regular monitoring and control. Observations, inspections, employee reports, and information concerning accidents and incidents should be analyzed systematically within the enterprise. Such an approach makes it possible to identify hazardous conditions before an incident occurs, eliminate existing deficiencies, and provide a sound basis for management decisions concerning occupational health and safety.

Direct employee participation is also of great importance in ensuring occupational safety. Employees who are familiar with actual workplace conditions and the practical aspects of technological processes can provide valuable observations and suggestions that contribute to more accurate hazard identification. When an employee reports a hazard in a timely manner and management analyzes the information and takes appropriate corrective measures, a prevention-oriented safety culture can be established within the enterprise.

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Occupational risk management is not a one-time activity but a continuous process of improvement. Hazards should be reassessed when new equipment is installed, technological processes are changed, the workplace layout is modified, or an accident or incident occurs. Evaluating the effectiveness of measures implemented as a result of previous risk assessments is also an important component of the management system. In this way, continuity in hazard identification, assessment, control, and monitoring can be ensured.

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