МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
ГОЛОВНЕ УПРАВЛІННЯ ОСВІТИ І НАУКИ ХАРКІВСЬКОЇ ОБЛАСНОЇ ДЕРЖАДМІНІСТРАЦІЇ
ОБЛАСНА РАДА З ПИТАНЬ БЕЗПЕЧНОЇ ЖИТТЄДІЯЛЬНОСТІ НАСЕЛЕННЯ
ЄВРОПЕЙСЬКА АСОЦІАЦІЯ З БЕЗПЕКИ
УПРАВЛІННЯ ВИКОНАВЧОЇ ДИРЕКЦІЇ ФОНДУ СОЦІАЛЬНОГО СТРАХУВАННЯ ВІД НЕЩАСНИХ ВИПАДКІВ ТА ПРОФЕСІЙНИХ ЗАХВОРЮВАНЬ УКРАЇНИ У ХАРКІВСЬКІЙ ОБЛАСТІ
НАЦІОНАЛЬНИЙ ТЕХНІЧНИЙ УНІВЕРСИТЕТ «ХАРКІВСЬКИЙ ПОЛІТЕХНІЧНИЙ ІНСТИТУТ»
ГРОМАДСЬКА ОРГАНІЗАЦІЯ «СПІЛКАФАХІВЦІВ З БЕЗПЕКИ ЖИТТЄДІЯЛЬНОСТІ ЛЮДИНИ»

Збірник
наукових статей та матеріалів
VIII-ї міжнародної науково-методичної конференції
та 115-ї міжнародної конференції EAS

«Безпека людини у сучасних умовах»
8–9 грудня 2016 року

The Collection of scientific articles and materials of VIII International scientific-practical conference and
115-International conference of EAS
“Human security in modern conditions”
8-9, December, 2016
Харків, Україна

2016

УДК 614.8:574.2
Збірник наукових статей та матеріалів VIII-ї міжнародної науково-методичної конференції та 115-ї міжнародної конференції EAS«Безпека людини у сучасних умовах» 8 – 9 грудня 2016 року – Харків, ГО«СФБЖДЛ», 2016. – 644 с.
ISBN 978-966-97496-6-6
Друкується за рішенням наукового комітету міжнародної конференції.
У збірнику приводяться наукові статтіVIIIМіжнародної науково-методичної конференціїта 115 міжнародної конференції EAS«Безпека лю-дини у сучасних умовах», яка відбулась 8 – 9 грудня 2016 року. Статті з напрямку безпеки життєдіяльності людини, в яких розглянуті питання, по-в'язані з проблемами безпеки підприємств, сільського господарства, транс-порту та оточуючого середовища, людини у сучасних умовах, моніторингу навколишнього середовища, ролі інформаційних та експертних систем, ро-боти громадських організацій.
Наукові статті, що наведено у збірнику, можуть бути корисними для науковців, викладачів вищих навчальних закладів освіти, аспірантів, сту-дентів та слухачів курсів підвищення кваліфікації.
The book presented scientific articles of VIII International scientific-mythological conference and 115 international conference of EAS «Human se-curity in modern terms» which took place on 8 - 9 December 2016. Articles is in the direction of human security that address issues related to the problems of se-curity, agriculture, transport and the environment, the person in modern circum-stances, monitoring the environment, the role of information and expert systems, the work of NGOs.
Scientific articles that are in the collection can be useful for scientists, teachers of higher educational institutions, graduate students, and training cours-es.

Збірник статей упорядкували : Березуцький В.В.
Панчева Г.М.
Ільїнська О. І.
Відповідальний за випуск: Березуцький В.В.
ISBN 978-966-97496-6-6

CERTIFICATION OF WORKPLACES AND RISKS
АТТЕСТАЦИЯ РАБОЧИХ МЕСТ И РИСКИ

Viacheslav Berezutskyi[1](SSL-F), Krystyna Skibniewska[2], Gulmira Madieva[3]
[1]National Technical University of «KhPI», Kharkov, Ukraine;
[2]Uniwersytet Warmińsko-Mazurski w Olsztynie, Poland
[3]Kazakh National University. Al-Farabi, Almaty, Kazakhstan

Abstract. At this material were analyzed of conformity to carry out of certification of work-places by the old regulatory requirementsand international standards that are including the maps of risk a workplaces. New approaches to the procedure for certification of workplaces taking into account the requirements of international standardsand risk.

Keywords: certification, workplace, standard, risk

Анотація. У роботі виконано аналіз відповідності, проведеної атестації робочих місць за старими нормативним вимогам та міжнародними стандартами, які передбачають заповнення карт ризиків на робочі місця. Запропоновано нові підходи у методики проведення атестації ро-бочих місць з урахуванням вимоги міжнародних стандартів та ризиків.

Ключові слова: сертифікація, робоче місце, стандарт, риск

Аннотация. В работе выполнен анализ соответствия, проведенной аттестации рабочих мест по старым нормативным требованиям и международным стандартам, которые предусмат-ривают заполнения карт рисков на рабочие места. Предложены новые подходы в методике про-ведения аттестации рабочих мест с учетом требований международных стандартов и рисков.

Ключевые слова: сертификация, рабочее место, стандарт, риск

Procedure of certification a workplace at Ukraine. The main purpose of certifica-tion - regulation of relations between employers and employees about their rights to health and safe working conditions, benefits and compensation for work in adverse conditions. Certi-fication is conducted pursuant to the Law of Ukraine "On Labor Protection" (Art. 7, 13) in accordance to the procedure approved by the Cabinet of Ukraine from 08.01.92, ғ442, and in accordance to the guidelines for the certification of working conditions at work that approved by the Ministry of Labor of Ukraine and the Chief sanitary doctor of Ukraine of 09.01.92, ғ41.

The results of the certification is the basis for the decision on the provision of old-age pensions on favorable conditions under the Law of Ukraine "On pensions" other benefits and compensation (such as - annual additional leave, additional payment to employees for work-ing conditions, shorter working week from her milk and other equivalent products, etc.) and the development and implementation of organizational, technical, economic and social measures (including collective agreement) to improve conditions of work [1].

The enterprise established of frequency certification in the collective agreement but at least once every 5 years. It could then suggest the economy has not worked in market condi-174 tions. We need to constantly keep track of changes and make adjustments as the market is very dynamic and changes may occur at one year a several times.

Certification of workplaces is:

workplace to identifying of conformity harmful and dangerous production fac-tors and causes that create them;

research to conducting by sanitary environment factors, gravity and tension in the workplace;

comprehensive assessment of environment factors on their compliance perfor-mance standards, sanitary standards and requirements of regulatory documents;

justification job assignment to the category of hazardous conditions;

confirm and establish the worker's right to preferential pension benefits, addi-tional leave, reduced working hours and other benefits and compensation, depending on conditions;

check the correct application of Lists productions, works, professions, positions and indicators that are entitled to preferential pension provision;

resolving disputes that may arise between employers and employees about working conditions and rehabilitation.

Laboratory studies of physical, chemical, biological, physiological factors determining held in the process of workers in specific (typical) production conditions, healthy and efficient operating of collective and individual protection.
It identifies:
the level of dust and gas pollution by harmful chemicals;
the level of vibration;
the level of sound pressure (noise, ultrasound, infrasound);
the level of non-ionizing radiation;
options microclimate indoors and outdoors;
the level of biological factors;
the severity and intensity of work, working out;
the light levels;
variability of activity and others.
For the assessment of working conditions of managers and professionals undertakes assessment of working conditions led their employees if they are engaged in the performance of work under conditions specified in the list ғ1 and ғ2 for their subordinates for a full day. 175
The research results are made protocols (form ғ91 are approved by the Ministry of Health of Ukraine of 21.04.1999). The protocols defined hygienic assessment of working conditions by comparing actual set of indicators of regulations and determine the level of haz-ard and danger of each factor of production environment and process the criteria defined safe-ty classification of work in terms of hazard and danger environment factors, severity and in-tensity of the work process approved by the Ministry of Health of Ukraine of 27.12.2001, ғ528. The main documents of certification - Map of conditions based on these research pro-tocols further were filled.
Currently, all that was described above is characterized by risk weight of workplace.
Procedure of certification a workplace at USA. Let's look at the process of certifica-tion of workplaces in the United States.The most representative body for the certification of workplaces is Workplace Safety Committee Certification Program FAQs [2]. The committee must be formed and meet the criteria set forth in the Workers' Compensation Health and Safe-ty Regulations, Chapter 129, Subchapter F. Then an application must be completed and ap-proved by the Bureau of Workers' Compensation. This process is repeated annually. Initial applicationsmust be submitted between 90 and 30 calendar days prior to the annual renewal of your workers' compensation policy**.** Renewal applicationsmust be submitted between 90 and 15 calendar days prior to the renewal of your workers' compensation policy**.**
Applications may be submitted through th**e** HandS online filing system. New users will be asked to create a user account. (When establishing the user account, it is recommended that you opt for electronic exchange of information, which means that all subsequent commu-nications will be done online.) Once your account is established, HandS will lead you through the application, section by section. When all of the information is entered and the application has been electronically signed, you can print a copy of your application, press the "submit" button and you're finished. The North American Industry Classification System (NAICS) is the standard used by federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing and publishing statistical data related to the U.S. business economy. It identifies the organization's primary type of business (e.g. manufacturing, educa-tion, transportation, etc.). You can find your NAICS number on your workers' compensation insurance declaration page, by contacting your workers' compensation insurance carrier or by contacting the person who files your tax return with the IRS.
Prior to submitting an initial application and annually thereafter, ALL committee members, must, at minimum, be trained in three areas: 1) hazard detection and inspections; 2) accident and illness prevention investigation (including substance abuse awareness and pre-
176
vention training); 3) safety committee structure and operation. The person(s) conducting this training must hold one of the credentials recognized by the Bureau of Workers' Compensation and have two years of required experience.
Certified workplace safety committees are randomly selected for on-site audits by the Bureau of Workers' Compensation. Notice of an audit and information to be provided during the on-site visit are provided in advance. At an audit, committee documentation is reviewed and questions are posed

as needed to confirm that the committee met all regulatory require-ments for certification as attested to by employers on initial and renewal certification applica-tions. Any policy periods in the current and past two policy years in which a committee was certified will be examined. Audits do not involve a physical workplace inspection. At the conclusion of an audit, a closing conference will be held during which preliminary findings will be presented. A written audit report will be issued listing official findings.

The American system is more perfect because the electronic form provided and the in-ternet system. However, this electronic system is also based on the observation of complex and has a large volume of material to be prepared by an employee to obtain compensation for work in severe conditions.

In our opinion it is time to think about how to combine jobs certification system with the methods of risk assessment under the terms of the work that will improve the efficiency of the process.

Risk assessment for certification of workplace. Risk Management uses logical and systematic methods used for information sharing and consultation about of the risks. For this need to make the identification, analysis, evaluation and treatment of risk, according to any activity, process, function or product; monitoring and analysis of changing risk; check the re-sults and prepare to report [3].

Risk assessment is part of the risk management. This is a structured process in which identified ways of achieving goals, analyzes of consequences and likelihood of hazardous events for a decision on the need for handling risk.

Risk management is based on the International Standard ISO / IEC 31010-2011 [4]. This standard presents methods of risk assessment and data for links to other international standards where the more detailed show of methods the risk assessment. Risk assessment that is in this standard, the structure and process of risk management were established by ISO 31000 [5] and ISO Guide 73:2009 [6]. The structure of risk management involves establishing policies, procedures and organizational measures for the implementation of risk management in all parts of the organization [7].

177

Risk assessment is a process that combines the **identification**, **analysis** and **compara-tive assessment** of risks. The risk can be estimated for the entire organization and its divi-sions, individual projects, activities or particular hazardous event. Therefore, in different situ-ations can be applied different methods of risk assessment [5].

Risk identification is the process of determining the elements of risk, preparation of a report and description of each element of risk. The purpose of risk identification is the inven-tory of risk sources and events that may affect the achievement of the stated objectives of each organization or make it impossible to meet these goals. After identification of risk the organization should identify the essential features of the project, staff, processes, systems and controls. Risk identification process includes identification of the causes and sources of dan-gerous events, situations, circumstances or risks that may have a significant impact on the achievements of the organization and nature of these impacts.

Methods for identifying of risk can include [4]:

- Methods risk assessment based on documentary evidence, examples of which is the analysis of checklists, analysis of experimental data as well as data and events that oc-curred in the past;

- The approach, according to which should be established the group for risk identifica-tion process that will be using a structured set of tips or questions;

- Inductive methods such as HAZOP.

To improve the accuracy and completeness of risk identification can be used various methods such as brainstorming method and the Delphi method.

Whatever the actual techniques used in identifying risk is important to consider the human and organizational factors. Deviations caused by the influence of human and organizational factors and dangerous events related to information technology, must be taken into account in the identification of risk [8,9].

To reduce the risk assessment to a more objective, proposed method of determining the Risk-Indicator, developed by the National Technical University "Kharkov Polytechnic Insti-tute" [9,10].

Analyzing the above we are the proposed indicators of danger (symbol – **RI** – **Risk - In-dicators**) which is defined by the following expression:

RI = Workpeople x Factors x Probability, (1)

Where, **Workpeople** - number of personnel that can be exposed to this factor;

178

Factors - number of hazardous factors (the factors which influence the result of a per-son leads to serious injury or death);

Probability - the Probability ranges from 0 (Absolutely impossible) to 10 (Expecta-tions that happens). It's like at method **Fine-Kinney** about it mentioned above.

Workpeople:

8 - More 1000people **(**working teams), and/or plus passengers and other people pre-sent;
7 - 100-1000 people (working teams), and/or plus passengers and other people present;
6 - 10-100 people (working teams), and/or plus passengers and other people present;
5 - 5-10 people (working teams);
4 - 1-5 people working teams;
3 - One man at workplace;
2 – Service (workplaceimpermanent);
1 – Control (some time).

Factors:

10 - More1 chemical agents (substances), and/or radioactive, and/or explosive fire risk material (gas state);
9 - More1 chemical agents (substances) 1 class, and/or more 1 pathogenic component Biological, and/or explosive fire risk material (liquid state);
8- 1 chemical agents (substances) 1 class, and/or 1 pathogenic component Biological, and/or explosive fire risk material (solid state);
7 - More than 1 chemical agents (substances) 2 class, and/or Fire-risk substance (gas state);
6 - 1 chemical agents (substances) 2 class, and/or more 1 non-pathogenic component Biological, and/or Fire-risk material (liquid state);
5 - 2 chemical agents (substances) 4 and 3 classes of danger and/or 1 Biological non-pathogenic component, and/or Fire-risk material (solid state);
4 - More5 physical factors and / or 1 chemical (Hazard class 3 - low hazard);
3 - 2-5 Factors of physical and/or 1 chemical (Hazard Class 4 - innoxious);
2 - Two factors (physical).
1 - Only one factor (physical)

Neuropsychiatric and other human factors are qualified to the physical exposure lev-els.

179

Probability

• 10 - Expectations that happens
• 6 - Very likely
• 3 - Unusual, but possible
• 1 - Unbelievable
• 0,5 - One can imagine but incredibly
• 0,2 - Almost impossible
• 0,1 - Unable
• 0 - Absolutely impossible

Analysis of **Risk-Indicator** should lead to on the degree of seriousness (table 1).

Table 1 – **Risk-Indicator classification on the degree of seriousness RI**

	The degree of seriousness
More 480	Extremely high risk immediate
240 - 480	termination of
80 - 240	High risk, immediate
20 - 80	improvements are needed
0-20	Severe risk of needed improvement

Possible risk should pay
attention
Small possibly acceptable risk

Алфавітний вказівник учасників конференції