

PATENTOLOGICAL APPROACHES TO STUDYING RISKS

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Through constant efforts of technical specialists, the reliability of technical equipment assemblies is continuously increasing, new technical methods and means of protecting human beings and the environment are being developed [1]. But industrial and agricultural production uses huge reserves of various types of energy, toxic substances and materials. This is a constant source of serious man-made hazards and accidents [2]. Therefore, as think A.I. Orlov (2015), in industrial safety at risk is usually understood the risk of accidents [3].

The accident is considered as a dangerous man-made event, which creates a threat to life and health of people and leads to the destruction of buildings, structures, equipment and vehicles, the disruption of the production or transport process, and damage of natural environment. An industrial accident occurs on an industrial site, in a technical system or on an industrial installation [4].

In recent years, risk management in the profession has been actively involved in the professional activities of the engineer, in order to study the nature of the risk, its causes, forms of manifestation and management methods. Production risks are considered as risks associated with the enterprise: risks associated with industrial safety, risks of accidents at work, etc. Among them, one can single out innovative risks - the risks of errors in the development and production of products [5].

Ensuring a low level of technological risks, excluding and forecasting technological risks, guarantee high-performance production activities and high quality of products [6].

In connection with the relevance of risk research within the framework of industrial and technological safety, the question arises of optimizing technological processes and equipment in terms of reducing the level of risk. Proceeding from the concept of patentology, which developed by V.M. Evstropov [7], we believe that it is also possible to conduct patent research in the field of risk (within the framework of industrial and technological safety of this direction). From the literature it is known about patentological approaches to the study of patent and technical objects in the field of production technologies [8], technology [9], safety of the technosphere [10].

Stages of a patent study on a particular topic under study include:

- a) preprocessing of patent arrays on a given topic and the formation of a thematically restricted locus of patent data;*
- b) a patentological analysis of the results obtained; c) analysis of technologies from the point of view of their classification.*

The main information base for the formation of a patent locus is the initial search patent cluster, which includes a thematically limited search area of the patent space. At the same time, loci of patents are used, which are the required part of the patent cluster - a thematic set of patents interconnected by functional links. A patent clone is formed by a patent information chain of modifiable characteristics of prototype technologies.

Thus, patent-technical objects (devices, methods, technologies) associated with potentially dangerous elements of technical and technological systems are of primary interest in the plan of patentology studies on the analyzed direction of risk study.

Bibliography

1. Bykov A.A. *On problems of technogenic risk, safety of the technosphere and the technological future: views, ideas and thoughts of Academician V.A. Legasova* // *Civil Defense Strategy: Problems and Research*. 2011. – №1. – P. 73-89.
2. Vigdorovich V.I. *Technogenic risk. Problems and solutions* // *Bulletin of Tambov University. Series: natural and technical sciences*. – 2004. – № 4. – P. 405-419.
3. Orlov A.I. *MULTIPLE RISKS* // *POLITICAL NETWORK ELECTRONIC SCIENTIFIC JOURNAL OF THE KUBAN STATE AGRARIAN UNIVERSITY*. – 2015. – №111 (07). – URL: <http://ej.kubagro.ru/2015/07/pdf/05.pdf> (reference date: 20.04. 2018).
4. Vetoshkin A.G., Tarantseva K.R. *Technogenic risk and safety*. – Penza: Publishing house of Penza State University, 2001. – 171 p.
5. Orlov A.I. *Econometrics*. – M.: Exam, 2004. – 576 p.
6. Belonovskaya I.D., Yezerskaya Ye.M. *Methodological problems of training the future engineer in the management of production and technological risks* // *Izvestiya Samara Scientific Center of the Russian Academy of Sciences in 2011*. – № 1 (3). – P. 710-714.
7. Evstropov V.M. *General characteristics of the concept of patentology* // *International Journal of Experimental Education*. – 2017. – No. 4-2. – P. 162-162; URL: <http://expeducation.ru/en/article/view?id=11477> (reference date: July 16, 2017).
8. Evstropov V.M. *PATENTOLGY AND PRODUCTION TECHNOLOGY*. *International Journal Of Applied And Fundamental Research*. – 2017. – № 3 – URL: www.science-sd.com/471-25229 (23.10.2017).
9. Evstropov V.M., Pushenko S.L., Nikhaeva A.V. *PATENTOLOGICAL ASPECTS OF ENGINEERING*. *International Journal Of Applied And Fundamental Research*. – 2017. – № 3 – URL: www.science-sd.com/471-25360 (25.11.2017).
10. Evstropov V.M., Pushenko S.L., Nikhaeva A.V. *PROSPECTS OF PATENTOLOGICAL RESEARCH IN THE ASPECT OF TECHNOSPHERE SAFETY*. *International Journal Of Applied And Fundamental Research*. – 2017. – № 3 – URL: www.science-sd.com/471-25225 (15.10.2017).