Safety Science

Volume 50, Issue 4, April 2012, Pages 909 – 913

First International Symposium on Mine Safety Science and Engineering 2011

Special Issue Article: The First International Symposium on Mine Safety Science and Engineering

Risk management and workers ' safety behavior control in coal mine ☆

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http://dx.doi.org/10.1016/j.ssci.2011.08.005, How to Cite or Link Using DOI

Abstract

According to the risk management characteristics and the actual needs of safety production in coal mine, we thoroughly analyze the system of risk management method in coal mine and implement it in Geting Coal Mine. The system manages and controls the potential accident risks, hazard sources and human behavior risks. On this basis, the system of workers' safety behavior control technology in coal mine is further studied, the "three disobeying" is classified and managed, the "three disobeying" database and safety countermeasures database are established, and the application software – the system of risk management and safety countermeasures optimization in coal mine based on B/S mode is developed and applied, which uses intranet to analyze and supervise the "three disobeying", publish early-warning information, optimize management and control countermeasures; at the same time, the important prompting messages can be automatically sent to the mobile phones of relevant managers and the person in charge through public communication system in order to improve the real time capability and effectiveness of unsafe behavior control. The technological system and application software implemented in Geting Coal Mine has achieved good results.

Highlights

► Risk management system is analyzed based on safety production requirement. ► The risk management system and safety countermeasures optimization is applied in mines. ► The system manages the potential accident, hazard sources and human behavior risks. ► The public communication system is used to monitor unsafe behavior in real time.

Keywords

Risk management; Coal mine; Safety behavior; Control; Early-warning; Countermeasures

Figures and tables from this article:

Fig. 1. The risk management system in a coal mine.

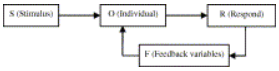

Fig. 2. Human behavior model.

Figure options

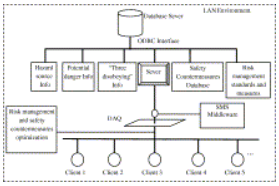

Fig. 3. Overall structure of the system of risk management and safety countermeasures optimization in coal mine.

Figure options

Fig. 4. Homepage of coal mine risk management and safety countermeasures optimization system.

Figure options

Table 1. The standard of economic sanctions and examination scores.

View Within Article

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The First International Symposium on Mine Safety Science and Engineering (ISMSSE2011) will be held in Beijing on October 26 – 29, 2011. The symposium is authorized by the State Administration of Work Safety and is sponsored by China Academy of Safety Science & Technology (CASST), China University of Mining & Technology (Beijing) (CUMTB), Datong Coal Mine Group, McGill University (Canada) and University of Wollongong (Australia) with participation from several other universities from round the world, research institutes, professional associations and large enterprises. The topics will focus on mines safety field: theory on Mine Safety Science and Engineering Technology, Coal Mine Safety Science & Engineering Technology, Metal and Nonmetal Mines Safety Science & Engineering Technology, Petroleum and Natural gas Exploitation Safety Science & Engineering Technology, Mine Safety Management and Safety standardization Science & Technology, Occupational Health and Safety in Mine, Emergent Rescue Engineering Technology in Mine, etc.

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